GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION
SPONSORED PROJECT INITIATION

Date: 8/9/79

Project Title: Health Systems Planning Option

Project No: E-22-517 (Continuation of E-22-515) Green Card

Project Director: Dr. Harold E. Smalley

Sponsor: Public Health Service; Hyattsville, Maryland 20782

Agreement Period: From 7/1/79 Until 6/30/80

Type Agreement: Grant No. 5-D12-AH00958-04

Amount: $25,745

Reports Required: Interim Progress Report; Final Report

Sponsor Contact Person (s):

Technical Matters

Mr. Charles Munn
Education Development Branch
Division of Associated Health Professions
Health Resources Administration
Hyattsville, Maryland 20782

Contractual Matters
(thru OCA)

Ms. Carol Wood
Grants Management Branch
Bureau of Health Manpower
Health Resources Administration
Center Building, Room 4-22
3700 East-West Highway
Hyattsville, Maryland 20782

Defense Priority Rating: None

Assigned to: Health Systems (School/Laboratory)

COPIES TO:

Project Director
Division Chief (EES)
School/Laboratory Director
Dean/Director--EES
Accounting Office
Procurement Office
Security Coordinator (OCA)
✓Reports Coordinator (OCA)
Library, Technical Reports Section
EES Information Office
EES Reports & Procedures
Project File (OCA)
Project Code (GTRI)
Other OCA Research Property Coordinator

CA-3 (3/76)

GEORGIA INSTITUTE OF TECHNOLOGY
OFFICE OF CONTRACT ADMINISTRATION

SPONSORED PROJECT TERMINATION

Date: 10/20/80

Project Title: Health Systems Planning Option

Project No: E-22-517 (Continuation of E-22-515)

Project Director: Dr. H. E. Smalley

Sponsor: Public Health Service; Hyattsville, Maryland 20782

Effective Termination Date: 6/30/80 (04 year)

Clearance of Accounting Charges: 9/30/80 (for reporting)

Grant/Contract Closeout Actions Remaining:

_ Final Invoice and Closing Documents
_ Final Fiscal Report
X Final Report of Inventions
_ Govt. Property Inventory & Related Certificate
_ Classified Material Certificate
X Other Final Report of Expenditures

Assigned to: Health Systems (School/~~Laboratory~~)

COPIES TO:

Project Director
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Library, Technical Reports Section
EES Information Office
Project File (OCA)
Project Code (GTRI)
Other OCA Research Property Coordinator

CA–4 (1/79)

ND ADDRESS OF GRANTEE INSTITUTION	DEPARTMENT OF	GRANT NUMBER
Georgia Institute of Technology Atlanta, Georgia 30332	HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE HEALTH RESOURCES ADMINISTRATION	5 D12 AH00958-04
	REPORT OF EXPENDITURES FOR TRAINING GRANT	PERIOD COVERED BY THE REPORT From 7/1/79 To 6/30/80

)S TO BE ACCOUNTED FOR			
JNDS AWARDED THIS BUDGET PERIOD	$ 27,375.00		
ALANCES FROM PREVIOUS GRANTS	$ 9,920.21		
JNDS AVAILABLE FOR EXPENDITURES		$ 37,295.21	
DJUSTMENT IN PREVIOUS OBLIGATIONS		$ -0-	
OTAL FUNDS TO BE ACCOUNTED FOR			$ 37,295.21
AL EXPENDITURES INCLUDING OBLIGATIONS			
RECT COSTS			
Personnel	$		
Consultant Services	$		
Equipment	$		
Supplies	$		
Travel	$		
Alterations and Renovations	$		
Other Expenses	$		
Trainee Expenses	$		
Subtotal, Direct Costs		$ 25,346.55	
DIRECT COSTS		$ 2,027.73	
ased on rate of 8 %			
pplied to allowable direct			
osts of $ 25,346.55 .			
OTAL EXPENDITURES (INCLUDING UNLIQUIDATED OBLIGATIONS)			$ 27,374.28
BLIGATED BALANCE (LINE I-E LESS II-C)			$ 9,920.93

reby certify that the foregoing report is true in all respects and that the expenditures have been made solely for the purposes orth in the application for the grant as approved and that I am authorized to sign this report for the institution named.

NAME OF PROGRAM DIRECTOR	SIGNATURE	DATE
. E. Smalley, Director hool of Health Systems	[signature]	10/15/80
NAME OF PROJECT FINANCIAL OFFICER	SIGNATURE	DATE
d V. Welch, Manager rants & Contracts Acctg.	[signature]	10/20/80

(FORMERLY NIH-1969)

FORM APPROVED:
OMB NUMBER 68-R0948

HEALTH SYSTEMS PLANNING OPTION

An Allied Health Professions
Special Training Project

Final Report
Covering the Period
July 1976 — June 1980

Supported by Grant 1 D12 AH00958
from the
Division of Associated Health Professions
Bureau of Health Manpower
Health Resources Administration
Department of Health, Education, and Welfare

Health Systems Research Center
Georgia Institute of Technology
Atlanta June 1980

SELECTED HSRC REPORTS

Various publications of the Health Systems Research Center are available in either hard copy or microfilm from Xerox University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan, 48106. When ordering a publication from the list below, refer to the appropriate Hospital Abstract Number.

Health Systems Planning Option: Final Report, Special Training Project, PHS Grant No. AH 00958, June 1980, 182 pp. (Hospital Abstract #22774 AR).

Evaluation of the Role of Police in the EMS System, PHS Grant No. HS 01767, June 1978, 188 pp. (Hospital Abstract #19614 ED).

Conference Proceedings--Evaluation of the Role of Police in the EMS System: Implications for Administrators, PHS Grant No. HS 01767, March 1978, 59 pp. (Hospital Abstract #19613 ED).

Curricula in Health Systems: Final Report, Special Training Project, PHS Grant No. AH 00242, September 1977, 217 pp. (Hospital Abstract #18239 HE).

Evaluation of the Group Reimbursement Incentive Project of the Birmingham Regional Hospital Council: Final Report, Social Security Administration Contract No. SSA-PMB-73-154, June 1977, 386 pp. (Hospital Abstract #17789 IN).

EMS System Data Requirements for Performance Evaluation, PHS Grant No. HS 00715, December 1974, 86 pp. (Hospital Abstract #13565 OU).

Telemetry Utilization for Emergency Medical Services Systems, PHS Grant No. HS 00715, June 1974, 64 pp. (Hospital Abstract #12484 OU).

Ambulance Placement Strategies for Emergency Medical Systems, PHS Grant No. HS 00715, January 1974, 133 pp. (Hospital Abstract #11601 HE).

Dental Manpower Planning: A Systems-Analytic View, PHS Grant No. AH 01056, May 1973, 218 pp. (Hospital Abstract #10250 MP).

An Improved Emergency Medical Systems for Metropolitan Atlanta, A Comprehensive Plan and Systems Design, Georgia Regional Medical Program Contract, March 1973, 566 pp. (Hospital Abstract #10150 OU).

Program in Hospital and Medical Systems Final Report and Evaluation, PHS Grant No. AH 01056, February 1973, 238 pp. (Hospital Abstract #10050 MN).

Fiscal Controls for Hospital Departments, PHS Grant No. AH 01056, October 1972, 203 pp. (Hospital Abstract #09499 AC).

Analysis of Optimal Radiographic Location Networks, PHS Grant No. HS 00179, October 1971; Vol. I, II, III, and Parts 1-4 of Vol. IV, total of 562 pp. (Hospital Abstracts #RLO 7441-RLO 7447).

Systems Analysis of Medical Records in Georgia, PHS Contract No. HSM 110-70-349, September 1971; Vol. I, II, and III, total of 487 pp. (Hospital Abstracts #MRO 7741-MRO 7743).

The Planning of Clinical Facilities for Medical Education: A Systems Approach, PHS Grant No. AH 01056, August 1970, 349 pp. (Hospital Abstract #MD2 5900).

Quantitative Methods for Evaluating Hospital Designs, PHS Grant No. HM 00529, August 1969, 239 pp. (Hospital Abstract #DE 1026).

HEALTH SYSTEMS PLANNING OPTION

An Allied Health Professions
Special Training Project

Supported by Grant 1 D12 AH00958
from the
Division of Associated Health Professions
Bureau of Health Manpower
Health Resources Administration
Department of Health, Education, and Welfare

FINAL REPORT

July 1976-June 1980

Prepared by

Harold E. Smalley, Ph.D.
Thomas H. Bowlin, Ph.D.
Nelson F. Sayford, BIE
Beverly A. Walling

Health Systems Research Center
Georgia Institute of Technology
Atlanta, Georgia
June 1980

SUMMARY OF FINAL REPORT

This is the final report on the special training project, "Health Systems Planning Option," which was supported by Grant 1 D12 AH00958 from the Division of Associated Health Professions of the Bureau of Health Professions, Department of Health and Human Services. The report covers the project period from 1 July 1976 through 30 June 1980, with emphasis upon the final year of the project.

Activities pursued under this training project have included the development and refinement of new health planning courses, the preparation of educational materials, and the evaluation of project results.

The general objective of the project was the development of health planning options within existing curricula in health systems that would expand the competence of its graduates to include the knowledge and skills required for planning health service systems. Such a planning function covers manpower, facilities, logistics, organization, finances, and other system components; it utilizes scientific methods, modern technology, and the systems approach; and it includes consideration of medical, behavioral, socioeconomic, demographic, ethnic, political, legal, and other relevant factors. The purpose of this project was better health service delivery and improved health care through wider use of manpower specifically trained to apply both the science and the art of health planning. The general objective was sought by the Health Systems Research Center (HSRC) through the following specific objectives:

1. Design undergraduate and graduate curricula and develop specific courses for the purpose of producing health systems planners.
2. Modify and expand the existing curricula in Health Systems at both the undergraduate and graduate levels.
3. Draw upon appropriate resources at Georgia Tech in order to integrate various disciplines into multidisciplinary planning curricula.
4. Evaluate the effectiveness of the training program and the utilization of program graduates.

Since the initiation of the original Program in Health Systems in 1973, a total of 481 persons enrolled at Georgia Tech as H.S. majors (381 undergraduates and 100 graduate students). As of December 1979, 106

bachelor's and 51 master's degrees had been awarded and 93 BSHS and 28 MSHS students were actively pursuing degrees. Enrollment of HS majors has increased from 32 in 1973 to the current level of 121. Of the current 121 students, 72 or about 60 percent are women and 12 or about 10 percent are in the "minority" category.

During the period beginning 1 July 1976 and ending 31 December 1979, the School of Health Systems offered multiple sections of 37 courses for 2683 students from over 20 Georgia Tech curricula, for totals of 7000 student-hours of instruction and 7409 quarter-hours of academic credit. A total of 130 field training projects under faculty supervision were conducted by students at field training sites in Atlanta and Augusta, in a number of other Georgia localities, and in several other states.

The educational program developed through this training project continues to provide a broad overview of the health field and its problems, as well as an in-depth insight into feasible means of improving the health care system and its components. The program attracts bright young persons, educates them, and trains them in the methods and techniques of systems science and management engineering. It assists the student in applying such scientific methods to health care management problems, encourages individual initiative and ingenuity, and provides real-world learning experiences through field training. And, it reinforces such learning through recitations, oral and written reports, seminars, case studies, and discussions. Graduates of the Program in Health Systems are prepared to analyze, plan, design, and improve management systems of health care delivery and to play a useful role in improving the nation's health care system.

Evaluations of the training project were conducted throughout the project period, both formally and informally. A written critique, conducted at the end of each course offering, provided input from individual students on course content, quality of study materials and assignments, and effectiveness of the instructor. A formal survey of alumni and their employers, conducted during 1979, gave some insight into the applicability of the curricula to actual job demands and expectations. In addition, students were invited to discuss the academic program on an informal basis with members of the National Advisory Committee at

their meetings and were encouraged to discuss the academic program freely with faculty members. As a result of suggestions gained through the various evaluation channels, the curricula and courses were refined, modified, and strengthened on a continuing basis.

The new School of Health Systems has a bright future. Having fulfilled the original objectives of the present training project, the faculty and staff of the School look forward to further growth and development and to new opportunities to be of service.

Harold E. Smalley, Ph.D.
Program Director

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INTRODUCTION

This is the final report on the special training project, "Health Systems Planning Option," supported by Grant 1 D12 AH00958 from the Division of Associated Health Professions of the recently renamed Bureau of Health Professions, Department of Health and Human Services. The project was conducted by the Health Systems Research Center of the School of Health Systems at the Georgia Institute of Technology from 1 July 1976 through 30 June 1980.

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The general objective of the project was the development of health planning options within existing curricula in health systems that would expand the competence of its graduates to include the knowledge and skills required for planning health service systems. Such a planning function covers manpower, facilities, logistics, organization, finances, and other system components; it utilizes scientific methods, modern technology, and the systems approach; and it includes consideration of medical, behavioral, socioeconomic, demographic, ethnic, political, legal, and other relevant factors. The purpose of this project was better health service delivery and improved health care through wider use of manpower specifically trained to apply both the science and the art of health planning. The general objective was sought by the Health Systems Research Center (HSRC) through the following specific objectives:

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2. Modify and expand the existing curricula in Health Systems at both the undergraduate and graduate levels.
3. Draw upon appropriate resources at Georgia Tech in order to integrate various disciplines into multidisciplinary planning curricula.
4. Evaluate the effectiveness of the training program and the utilization of program graduates.

The remainder of this report is arranged in the format specified by the instructions for a terminal progress report.

Grant Number and Title

1 D12 AH00958
"Health Systems Planning Option"

Name of Grantee Institution

Georgia Institute of Technology
Atlanta, Georgia 30332

Name of Program Director

Harold E. Smalley, Ph.D.
Regents' Professor

Period Covered by Report

1 July 1976 - 30 June 1980

STAFFING

This section provides an overall view of project staffing for the entire project period, including Health Systems faculty and staff, consultants, and guest speakers.

Project Staff

Included in Table 1 are the Health Systems (H.S.) personnel (excluding student assistants) who participated in the project indicating the percentage of involvement for each person for Years 01 through 04. As shown, a total of 21 staff and faculty members have had varying degrees of involvement in the project since its initiation in July 1976 and all project staff positions have been filled.

Persons involved in the project during Year 04 are listed in Table 2. This table indicates the duration and the percentage of involvement of each staff member assigned to the training project for the fourth year. The percentage of involvement is broken down into the following seven activity or "Program Contribution" categories:

1. Teaching--Those activities involving direct student contact during the regularly scheduled lecture-recitation periods, labs, field training, seminars, and other teaching-learning experiences.
2. Course Development--Those activities occurring before a course is offered and consisting of preliminary planning, course numbering and titling, prerequisites, course description, texts and references, course purposes and objectives, scope and limitations, approach and method of instruction, and tentative course outline; and those activities after a course is offered that further develop the course, based upon teaching experience, documentation, and refinements.
3. Educational Materials--Those activities occurring in preliminary planning of a course and in subsequent refinements to the course that consist of the composition of teaching-learning materials, text manuscripts, handouts, lab work and homework problems, collections of reprints, development of quizzes, and other materials needed for a fully developed course.
4. Academic Counseling--Those student-related activities that assist the student with his career plans, his course selections, his overall academic goal setting, his professional and technical preparation, his academic problems, and his placement in a health systems position upon graduation.
5. Administration--Logistical and support services required in managing the academic program and in pursuing the training project.

Table 1

Project Staffing Summary*

Name	Position**	Percent Effort			
		Year 01 7/76-6/77	Year 02 7/77-6/78	Year 03 7/78-6/79	Year 04 7/79-6/80
rold E. Smalley	Regents' Professor	10%	10%	15%	20%
gustine O. Esogbue	Professor	5%	5%		
ck W. LaPatra	Professor		75%	50%	10%
Norman Berry	Adjunct Assoc. Prof.	5%	5%		
chard M. Bramblett	Associate Professor	5%	5%	5%	5%
llard R. Fey	Associate Professor	5%			
niel P. Golightly	Adjunct Assoc. Prof.		5%	5%	5%
phael B. Levine	Adjunct Assoc. Prof.	5%			
mes B. Mathews	Associate Professor	5%	5%	5%	5%
stin A. Myrick	Associate Professor	20%	20%	15%	10%
Livering Neely	Adjunct Assoc. Prof.	5%	5%		
omas H. Bowlin	Assistant Professor		20%	20%	50%
nnie J. Kay	Assistant Professor	25%	25%	15%	10%
ward E. Fagin	Lecturer	10%	10%	15%	5%
lian V. Pittman	Lecturer	10%	10%	5%	5%
lson F. Sayford	Lecturer	20%	30%	30%	30%
arles Y. Thomason, III	Lecturer	10%	10%	10%	5%
nald R. Wallace	Research Scientist	10%			
n A. Bailey	Research Associate	30%	30%	20%	10%
ifford S. Goodman	Research Associate	80%	50%		
ward A. French	Admin. Specialist	10%	10%	10%	

*Excludes graduate research and other student assistants.
**As of this report or the last period of project involvements.

Table 2

Staffing Assignments for Year 04
7-1-79 through 6-30-80

Name, HSRC Title	Number Months	Effort on Training Project*	Percentage Allocation of Program Contribution**						
			1	2	3	4	5	6	7
Harold E. Smalley, Regents' Prof.	12	20%				20	50	15	15
Jack W. LaPatra, Prof.	9	10%	40	20	20	20			
Richard M. Bramblett, Assoc. Prof.	12	5%	100						
Daniel P. Golightly, Adj. Assoc. Prof.	12	5%	100						
James B. Mathews, Assoc. Prof.	12	5%	100						
Justin A. Myrick, Assoc. Prof.	12	10%	40	20	20	20			
Thomas H. Bowlin, Asst. Prof.	12	50%	10	10	10	20			50
Bonnie J. Kay, Asst. Prof.	12	10%	40	20	20	20			
Howard E. Fagin, Lecturer	12	5%	50	50					
Julian V. Pittman, Lecturer	12	5%					70	15	15
Nelson F. Sayford, Lecturer	12	30%	10			15	50	5	20
Charles Y. Thomason, III, Lecturer	12	5%	50		50				
Ann A. Bailey, Res. Assoc.	12	10%			60		20		20

*Excludes graduate research and other student assistants.
**As of this report or the last period of project involvements.

Categories:
1. Teaching
2. Course Development
3. Educational Materials
4. Academic Counseling
5. Administration
6. Promotion and Publicity
7. Project Evaluation

6. Promotion and Publicity--Activities associated with the generation of ideas, the planning of campaigns, the preparation and distribution of materials, and the handling of relations with prospective and incumbent students, educators, health field officials, and other special persons, in relation to student recruiting, program welfare, and graduate placement.

7. Project Evaluation--The development of a design for assessing the degree of achievement of project objectives, including criteria, methods of measurement and of data collection, analyses, the planning of annual and final evaluations, the planning of annual and final reports, and the dissemination of project results; and the performance of activities in that design.

The activities/objectives matrix shown in Table 3 relates these seven areas of program contribution to the four objectives presented in the original project proposal.

Table 3

Activities/Objectives Matrix

Project Activities Contribution Categories	Project Objectives*			
	1	2	3	4
1. Teaching	X	X		
2. Course Development	X	X		
3. Educational Materials	X	X		
4. Academic Counseling			X	
5. Administration	X	X	X	X
6. Promotion and Publicity			X	X
7. Project Evaluation	X	X	X	X

*1. Design the planning curricula and develop specific planning courses.
2. Modify and expand existing curricula.
3. Integrate Georgia Tech disciplines into multidisciplinary planning curricula.
4. Evaluate training program effectiveness and utilization of graduates.

Guest Lecturers and Consultants

The School of Health Systems has been fortunate to have a variety of excellent guest lecturers throughout the duration of this training project. Many of these persons were participants in the popular H.S. Seminar courses (H.S. 4692-3 and H.S. 8092-3). In all, 81 guest presentations have been made in H.S. courses, including 63 presentations by individuals from external organizations and institutions; 9 by H.S. faculty (including adjunct faculty) and staff; and 9 by H.S. students. Included in

these numbers are the guest lecturers and speakers for Year 04 as shown in Table 4.

Consultation was provided to project staff primarily by the School's National Advisory Committee (NAC) consisting of prominent health systems educators, administrators, and practitioners. Meetings of this committee were held on the Georgia Tech campus during the initial two years of this training project and the impact of these meetings (as detailed in previous progress reports) was reflected in early planning option curricula designs. Ongoing correspondence with this group has continued to influence the improvement of H.S. curricula. A listing of the members of the NAC is included in Appendix 1.

Table 4

Guest Lecturers and Speakers

Speaker	Affiliation	Topic
)ring Quarter 1979		
S. 4692-3, 8092-3		
Brett Jorgeson	Vice President of Operations, Hospital Investors, Inc., Atlanta, GA	Management Issues in Health Planning
J. B. Mathews, Ph.D.	Director, Division of Systems & Computer Services, Medical College of Georgia, Augusta, GA	Management Problems in Providing Computer Services in a Medical Center
Robert L. Zwald	Administrator, Georgia Baptist Hospital, Atlanta, GA	The Need for Management Engineering Services in a Hospital
Robert J. Pursley, Ph.D.	Director, Roosevelt-Warm Springs Rehabilitation Center, Warm Springs, GA	Management Problems in a Rehabilitation Center
Paul B. Hofmann	Administrator and Chief Executive Officer, Emory University Hospital, Atlanta, GA	The Role of a Management Engineer in a Teaching Hospital
Darrell F. Cutts	Assistant Administrator, Piedmont Hospital, Atlanta, GA	Management Engineering and Cost Containment in a Hospital
Daniel P. Golightly,M.D.	Director, Surgical Emergency Clinic, Grady Memorial Hospital, Atlanta, GA	Management Problems in the Emergency Room
John D. Henry	Associate Administrator, Crawford W. Long Memorial Hospital, Atlanta, GA	Our Experiences With Sponsored GRAs and Senior Externs
Adam Jablonowski	Administrator, Joint Board of Family Practice, Atlanta, GA	Planning for Primary Care Medical Services
James L. Oakes, Jr.	Spectra Regional Manager, Medicus Corporation, Atlanta, GA	The Role of Health Systems Graduates in the Consulting Field
11 Quarter 1980		
S. 6001		
Daniel S. Blumenthal,M.D.	Medical Coordinator, W. T. Brooks Clinic, East Point, GA	Medical Education

TRAINING ACTIVITIES

All of the major activities proposed in the original grant application have been completed, with the results of project activities generally exceeding initial expectations and estimates. Project endeavors have continued to build upon previous experiences and curricula to strengthen all educational phases of the School's activities with a specific emphasis on planning areas. These project-related activities have had an impact on both the undergraduate and the graduate curricula. The undergraduate curriculum is composed of three options: health systems analysis, health systems planning, and premedical. The graduate program is composed of two options: hospital management engineering and health systems planning.

As of 19 December 1979, a total of 39 H.S. courses had been designed and implemented in these curricula since the start of the project. (See Table 5, "Course Inventory.") Also as of December, 106 Bachelor of Science (BSHS) and 51 Master of Science in Health Systems (MSHS) degrees had been awarded, with virtually all of these graduates being placed in health-related positions or in graduate study. The H.S. student body has increased steadily from 25 in 1973, to the current level of 121. (See Table 6.)

The following sections describe specific project activities leading to these and other accomplishments. Included are descriptions of the course development process and individual H.S. courses, quantitative project information, and resources that have been utilized in conducting the project.

Project Tasks

As specified in the original grant application, project activities were structured as a series of tasks to be accomplished over certain calendar periods. These tasks were primarily concerned with the development of the H.S. planning option; the design of H.S. courses and academic materials; publicity of the Program and recruitment of students; direction and coordination of Program activities; and evaluation of the project. These and other project tasks were pursued as stated in the original grant application or as modified in subsequent Progress Reports. Since the results of the tasks for Year 01 through Year 03 were presented in previous Progress Reports, they are not repeated here. The following sections provide a more detailed look at some of the activities conducted

Table 5

Health Systems Course Inventory

Course No.	Course Title	Lecture Hours	Laboratory Hours	Credit Hours
1000	Overview of Health Systems	1	0	1
2011	The Health Field	3	0	3
3011	Hospital Functions	3	0	3
3021	Nonhospital Components	3	0	3
3115	Management Engineering I	3	3	4
3116	Management Engineering II	3	0	3
3117	Management Engineering III	3	0	3
3118	Management Engineering IV	2	3	3
3211	Data Processing	3	0	3
3332	Health Care Cost Analysis	3	0	3
3341	Health Systems Planning	3	0	3
3351	Projects and Reports	3	0	3
3780	Introduction to Urban Engineering	3	0	3
3971,2,3	Special Problems		variable credit	
4021	Community Health Problems	3	0	3
4351	Case Studies	3	0	3
4570	Field Training Proposal	0	3	1
4571,2,3	Senior Externship	0,0,0	12,12,12	4,4,4
4692,3	Seminars	1,1	0,0	1,1
4765	Hospital Management Systems	3	0	3
4861,2,3	Health Systems Topics	3,3,3	0,0,0	3,3,3
6001	Introduction to Health Systems	3	0	3
6231	Project Management	3	0	3
6331	Health Systems Analysis I	3	0	3
6332	Health Systems Analysis II	3	0	3
6333	Health Systems Analysis III	3	0	3
6340	Health Planning Techniques	3	0	3
6341	Health Systems Planning	3	0	3
6342	Community Health Systems	3	0	3
6351	Research and Evaluation Methods	3	0	3
6570	Field Training Proposal	0	3	1
6571,2,3	Graduate Field Training	0,0,0	3,6,9	1,2,3
4,5,6		0,0,0	12,15,18	4,5,6
6765	Case Studies	3	0	3
7000	Master's Thesis		variable credit	
7765	Projects	1	6	3
8092,3	Graduate Seminars	1,1	0,0	1,1
8161,2,3,4	Topics in Health Systems	3,3,3,3	0,0,0,0	3,3,3,3
8261,2,3,4	Special Topics	1,2,3,4	0,0,0,0	1,2,3,4
8971,2,3,4	Special Problems		variable credit	

Table 6

Health Systems Majors
(Summer Quarter Omitted)

Year	Quarter	Men	Women	Enrollment
1972-73	Fall	0	0	0
	Winter	4	1	5
	Spring	13	2	15
1973-74	Fall	18	7	25
	Winter	21	10	31
	Spring	29	11	40
1974-75	Fall	33	22	55
	Winter	40	21	61
	Spring	40	23	63
1975-76*	Fall	63	41	104
	Winter	68	44	112
	Spring	70	39	109
1976-77	Fall	81	51	132
	Winter	80	45	125
	Spring	76	44	120
1977-78	Fall	84	50	134
	Winter	75	56	131
	Spring	77	51	128
1978-79	Fall	77	49	126
	Winter	79	53	132
	Spring	68	54	122
1979-80	Fall	49	72	121

*MSHS curriculum introduced.

throughout the duration of the project, emphasizing those pursued during Year 04.

Course Development

Throughout the project, the development and refinement of Health Systems courses has followed a systematic procedure consisting of the following steps:

1. Initial Description--Course identified as to subject matter area, scope, and level; numbered and titled; paragraph description.
2. Preliminary Plans--Initial description refined; purposes and objectives of course; approach, method of instruction; and special provisions; course outline; texts, reference, and collateral readings; approvals by faculty and director.
3. Initial Course Design--Specific preparation for teaching the course; schedule the course outline; prepare handouts, homework, quizzes, and other teaching-learning materials; arrange for term projects, lab work, site visits, etc.; plan for student critique and for faculty review; document the course design.
4. Initial Course Offering--Carry out initial course design in teaching the course within the constraints of the approved preliminary plans; keep a record of all course activities, teaching-learning materials, and other course materials; arrange for a study of student critiques and for faculty review; document initial offering in the historical file.
5. Revised Course Design--Recommend improvements in the course; revise preliminary plans and initial course design as desirable; obtain faculty and director approvals; document and file the resulting course design.
6. Subsequent Course Offerings--Carry out approved course design in teaching the course for the second (or subsequent) time, within the constraints of the approved course plan and design; keep course offering records; student critiques and faculty review; recommend improvements; file documentation.
7. Course Development--General review of the course by the faculty; consideration of changes in course plan and design; file documentation.

Steps 1 through 3 are initiated by Program faculty based upon perceived curricula needs. Steps 4 through 7 are undertaken once the Institute's Curriculum Committee has approved the course as designed in the initial steps. Table 5 contains a complete listing of all courses conceived and designed by Program faculty, and approved to be offered. It

should be noted that H.S. 3332, 3341, 4021, 6332, 6340, 6341, and 6342 were developed and/or updated as a direct result of this training project.

Each course designed is documented in a "course documentation" which contains the following information:

1. Course description (as it appears in the General Catalog).
2. Textbook(s) required.
3. Purposes and objectives of the course.
4. Scope and limitations of the course.
5. Approach and method of instruction.
6. Bases for grading.
7. Course outline (updated as changes occur).

A complete set of course documentations is contained in Exhibit 1.

Undergraduate Program Development

The undergraduate H.S. curriculum offers three different but inherently similar options for H.S. majors, and each leads to the designated Bachelor of Science in Health Systems degree. For administrative purposes, these three options are referred to in the Georgia Tech General Catalog (see Exhibit 2) as the BSHS curriculum, the health planning option, and the premedical option.

The BSHS curriculum is the basic health systems management engineering option and is intended for those students who wish to keep their choices open for a variety of positions in the field of health systems. This curriculum provides considerable flexibility so that students from various fields can transfer into it without losing credit already earned, and it contains sufficient electives to accommodate various specialty interests.

The health planning option is designed to broaden the preparation of the health systems specialist for professional practice in the subspecialty of health systems planning. Such a planning function covers manpower, facilities, logistics, organization, finances, and other systems components, and it includes consideration of medical, behavioral, socioeconomic demographic, ethnic, political, legal, and other relevant factors. Whereas health systems analysts normally are employed or are retained as consultants by individual hospitals or other health care institutions, health systems planners typically serve in government agencies, consulting firms or other organizations concerned with multi-institutional and community-wide systems of health care delivery.

The premedical option is designed to satisfy the normal course preparation required by most medical and dental schools while providing the systems orientation now being favored by leading medical educators. Nationally, about two of every three medical school applicants are rejected, and the proportion of professed premeds still in undergraduate school is even higher. A significant advantage of this premedical option is that, if the student decides not to apply to medical or dental school or applies and is not admitted, he or she will be prepared to pursue a professional career in health systems--a field in which the increasing demand exceeds the limited supply of qualified practitioners.

Initial development of the undergraduate program began in 1972 during the preparation of a previous grant, "Curricula in Health Systems." Upon approval and funding of this innovative training project, a more defined and detailed curriculum began to emerge. Within the constraints of the College of Engineering for the Bachelor of Science degree, the purpose of the undergraduate curriculum development was to produce an academically sound and functionally practical set of courses which would, within the normal 12 academic quarter (4-year) span, provide the student with the tools to function successfully and productively as a health systems professional. Thus, a major thrust of curriculum development involved the effective integration of existing Institute courses and new Health Systems courses into the best possible curriculum.

In Winter Quarter 1973, the first version of the B.S. curriculum of the Program in Health Systems was implemented. During the first and all successive years of curriculum implementation, faculty, student, and NAC suggestions for improvement were continually collected, leading to curriculum refinements in each year of the initial training project.

Curriculum improvement activities have continued as a major part of this Planning Option project. Changes made during the previous three years were detailed in the Year 01 through Year 03 progress reports. Consistent with these improvement activities, certain improvements in the undergraduate curriculum which influenced the Planning Option were made during Year 04.

The changes made during this final project year were more administrative than substantive in nature. Various prerequisites were added to H.S. 3011, 3021, 3115, 3117, 3118, 3211, 4021, and 4351 while several

were removed from 3341 and 3351. The course offering pattern was restructured as was the senior year to facilitate a smoother flow of students through the curriculum taking the prerequisite constraints into consideration. Tables 7, 8, and 9 show the BSHS curriculum, the planning option, and the predmedical option as these will appear in the 1980-81 General Catalog published by Georgia Tech.

Graduate Program Development

The MSHS curriculum is designed to provide educational background and field experience for two functionally different, although inherently similar, types of professional practitioners--health systems analysts and health systems planners. The analyst is primarily concerned with the analysis, design, and evaluation of institutional health care delivery systems, while the major activities of the health systems planner involve the design, implementation, and evaluation of multi-organizational programs of health care delivery.

The core of courses in the MSHS curriculum includes a series of lecture, case study, and project-oriented courses, with specialty area electives and field training. The graduate student may enroll in either the thesis option or the project option, each normally requiring one calendar year of graduate study.

On 12 March 1975, approval was granted by the Regents of the University System of Georgia for the MSHS degree to be awarded. Thus, the graduate curriculum was officially launched and the first 13 students were admitted in the Fall Quarter of 1975. Since the development and implementation of the initial MSHS curriculum, a number of improvements have been made in the analysis and planning options, and in their common core of courses. As with the undergraduate curriculum changes, those made during the previous three years of this planning option period were reported in the three prior progress reports. During Year 04, several prerequisites were changed for H.S. 6231, 6331, 6333, 6351, and 6765. These changes were all made in an effort to improve the preparation of students entering these key H.S. courses.

Additionally, several new courses at the graduate level were developed and approved by the Institute's Graduate Committee. These new courses are:

Table 7

BSHS Curriculum

Course	First Quarter	Second Quarter	Third Quarter	Credit Hours
Freshman Year				
Chem. 1101-2	--	5	5	10
E.Gr. 1170	3	--	--	3
Math. 1307-8-9	5	5	5	15
Pol. 1251	--	3	--	3
Hist. 1001 or 2	3	--	--	3
Humanities	3	3	3	9
Physical Education	1	1	1	3
Elective	3	--	3	6
	18	17	17	52
Sophomore Year				
Econ. 2000-1	3	3	--	6
H.S. 2011	--	--	3	3
I.Sy.E. 3027	--	3	--	3
I.Sy.E. 3028	--	--	3	3
Math. 2010	5	--	--	5
Phys. 2121-2-3	5	5	5	15
E.E. 1010 or I.C.S. 1700	--	3	--	3
Humanities	3	3	3	9
Social Science	--	--	3	3
	16	17	17	50
Junior Year				
Engl. 3023	--	3	--	3
H.S. 3011	3	--	--	3
H.S. 3021	--	3	--	3
H.S. 3115-6	4	3	--	7
H.S. 3117-8	--	3	3	6
H.S. 3211	--	--	3	3
H.S. 3351	--	--	3	3
I.Sy.E. 3029	3	--	--	3
I.Sy.E. 3131	--	3	--	3
I.Sy.E. 4101	--	--	4	4
Mgt. 3700	4	--	--	4
Electives	3	3	3	9
	17	18	16	51
Senior Year*				
H.S. 4351				3
H.S. 4570				1
H.S. 4571-2-3				12
H.S. 4693				1
I.Sy.E. 3025				3
Psy. 3033				3
Health Systems				3
Environmental				6
Technical				6
Electives				5
				43

Total Degree Requirements: 196

*For flexibility in scheduling field training, the senior year course-work is not broken down by quarters.

Table 8

Health Planning Option

The health planning option is provided in order to broaden the preparation of the health systems specialist for professional practice in the subspecialty of health systems planning. Such a planning function covers manpower, facilities, logistics, organization, finances and other system components. It includes consideration of medical, behavioral, socioeconomic, demographic, ethnic, political, legal and other environmental factors. Some health systems planners serve in government agencies, consulting firms or other organizations concerned with multi-institutional and community-wide systems of health care delivery. Others perform planning functions within management engineering departments of individual hospitals, clinics or other health care institutions.

Health systems majors may emphasize health systems planning by utilizing their electives to include courses appropriate to the planning function. Such students should make their selections from the following categories:

Environmental Electives

Mgt. 4290, Pol. 3217, 3220, 3221, 3250, Soc. 3310	3
Econ. 3501, 4310, 4330, 4331, H.S. 3332	3

Health Systems Elective

H.S. 4021	3

Social Science Elective

Soc. 1376	3

Technical Electives

I.Sy.E. 4028, 4044, 4157, I.C.S. 4334	3
H.S. 3341	3

Free Electives

C.P. 1100, H.S. 3780	3
I.Sy.E. 4053, 4056	3
Health Planning Courses	24
Remaining Free Electives	14

Table 9

Premedical Option

Course	First Quarter	Second Quarter	Third Quarter	Credit Hours
Freshman Year				
Chem. 1111-2	5	5	--	10
Chem. 2113	--	--	4	4
E.Gr. 1170	3	--	--	3
Engl. 1001-2-3	3	3	3	9
H.S. 2011	--	--	3	3
Math. 1307-8-9	5	5	5	15
E.E. 1010 or I.C.S. 1700	--	3	--	3
Physical Education	1	1	1	3
	17	17	16	50
Sophomore Year				
Biol. 2210-1-2	5	5	5	15
Chem. 3311-2-3	3	3	3	9
Chem. 3381-2	--	2	2	4
I.Sy.E. 3027	--	3	--	3
I.Sy.E. 3028	--	--	3	3
Phys. 2121-2-3	5	5	5	15
Psy. 3303	3	--	--	3
	16	18	18	52
Junior Year				
Econ. 2000	--	--	3	3
Engl. 3023	--	3	--	3
H.S. 3011	3	--	--	3
H.S. 3021	--	3	--	3
H.S. 3115-6	4	3	--	7
H.S. 3117-8	--	3	3	6
H.S. 3211	--	--	3	3
H.S. 3351	--	--	3	3
I.Sy.E. 3029	3	--	--	3
Mgt. 3700	4	--	--	4
Math. 2010	--	5	--	5
Psy. 3304	3	--	--	3
Humanities	--	--	3	3
	17	17	15	49
Senior Year*				
Econ. 2001				3
H.S. 4351				3
H.S. 4570				1
H.S. 4571-2-3				12
H.S. 4693				1
I.Sy.E. 3025				3
I.Sy.E. 3131				3
I.Sy.E. 4101				4
Pol. 3200				3
Health Systems				3
Hist. 3010 or 1				3
Humanities				6
				45
			Total Degree Requirements:	196

*For flexibility in scheduling field training, the senior year coursework is not broken down by quarters.

H.S. 6342, "Community Health Systems"

H.S. 8261, 2-3-4, "Special Topics"

In addition to Exhibit 1, documentations for these new courses are shown in Appendix 2.

The current MSHS curriculum requirements are shown in Table 10.

Course Documentation

All H.S. courses were reviewed during Year 04 and the course documentations were completely updated to reflect the most current content and faculty intent for each course. The result of this major undertaking is included as Exhibit 1 of this report. These documentations have been especially useful throughout this project as faculty shifts have been required from time to time in order to meet all the instructional and research obligations of the School. The intent and content of each course is readily available to any "new" person who might be called upon to teach any of the H.S. courses.

Statistical Data Summary

Following the initiation of the Planning Option project in 1976, a total of 2683 students have been enrolled in the 37 H.S. courses offered during this period. This enrollment represents 7000 hours of instruction which produced 7409 quarter hours of academic credit as summarized in Table 11. During the three quarters covered by this progress report 60 sections of 37 Health Systems courses were offered. These courses were taken by 602 students from over 20 different Georgia Tech curricula. This represents 1350 hours of instruction producing a total of 1525 quarter-hours of academic credit. These data are shown in Table 12.

Since 1973, a total of 481 students have been (or are currently) enrolled as Health Systems majors. Of these, 381 were bachelor's degree students and 100 were master's degree students. As of December 1979, 106 bachelor's and 51 master's degrees had been awarded and 93 BSHS and 28 MSHS students were actively pursuing degrees (see Table 6); and, there is no way to know how many additional health-related careers were launched as a result of nonmajors taking H.S. courses as electives. Table 13 shows the status of the 157 graduates with more detailed information given in the "BSHS Alumni Roster" (Appendix 3) and the "MSHS Alumni Roster" (Appendix 4).

MSHS DEGREE REQUIREMENTS
FOR 1980 PROGRAMS

Revised
June 1980

Entrance Requirements

Subject matter to be satisfied as prior preparation or as a non-degree candidate, preferably at some other institution; application held in abeyance, or *special* standing:

		GSU
Finite Mathematics	(Math 1711 = 5 hrs.)	Math 115
Differential Calculus	(Math 1712 = 5 hrs.)	Math 211
Integral Calculus	(Math 1713 = 5 hrs.)	Math 212

Prerequisites

Subject matter to be satisfied as prior preparation or, after enrollment, as requirements beyond the minimal 50 quarter-hour program of study; *conditional* standing:

		GSU
FORTRAN Computer Programming	(ICS 1700 = 3 hrs.)	IS 302
Calculus-based Probability & Statistics	(ISyE 6739 = 4 hrs.)	DM 231 & 312
Operations Research	(ISyE 6734 = 5 hrs.)	----
Methods, Standards, & Job Analysis	(HS 8264 (3115) = 4 hrs.)	----

Requisites

Subject matter to be satisfied as prior preparation or as mandatory electives in the graduate program of study; *full* standing;

		GSU
Microeconomics	(Econ 6000 for both options)	Econ 406
Engineering Economy	(ISyE 4725 for Analysis Option)	----
Sociology	(Soc 1376 for Planning Option)	Soc 201

Core Requirements		Quarter-Hours
HS 6001	Introduction to Health Systems	3
HS 6231	Project Management	3
HS 6331	Health Systems Analysis I (management engineering)	3
HS 6332	Health Systems Analysis II (economics & finance)	3
HS 6333	Health Systems Analysis III (quantitative methods)	3
HS 6340	Health Planning Techniques	3
HS 6341	Health Systems Planning	3
HS 6351	Research and Evaluation Methods	3
HS 6570	Field Training Proposal	1
HS 6571-2-3	Graduate Field Training	6
HS 6765	Case Studies	3
HS 8092 or 3	Graduate Seminar	1
	Subtotal	35
Option Requirements (see reverse side)		15

ANALYSIS OPTION: Approved selections from HS 8161 (3116); HS 8162 (3118); ISyE 4103; ISyE 6301, 6400, or 6407; requisite or elective.

PLANNING OPTION: Approved selections from CP 6000, 6090, Mgt 4290, or Soc 3340; Econ 6005, ISyE 4725, or Mgt 6000; HS 4863, ISyE 4044, or 6806; HS 6342; requisite or elective.

Program Requirements (minimal) 50

Table 10--*Continued*

OPTION COURSES

Revised
June 1980

ANALYSIS OPTION

			Quarter-Hours
Management Engineering:			
HS 8161 (3116)	Staffing and Scheduling	3-0-3	3
HS 8162 (3118)	Facility Planning	2-3-3	3
ISyE 4103	Information Systems	3-0-3	3
Applied Statistics:			
ISyE 6301	Quality Control Systems	3-0-3	
ISyE 6400	Design of Experiments	3-0-3	3
ISyE 6407	Theory of Sampling	3-0-3	
Requisite or Elective			3
		Sub-total	15

PLANNING OPTION

Community Planning:			
CP 6000	Urban Community Planning	3-0-3	
CP 6090	Fiscal Aspects of Urban Planning	3-0-3	
Mgt 4290	Public Administration	3-0-3	3
Soc 3340	Urban Ecology & Demography	3-0-3	
HS 6342	Community Health Systems	3-0-3	3
Applied Economics:			
Econ 6005	Cost Benefit Analysis	3-0-3	
ISyE 4725	Engineering Economy	3-0-3	3
Mgt 6000	Mgt Accounting & Control	3-0-3	
Computer Simulation:			
HS 4863	Health Systems Simulation	3-0-3	
ISyE 4044	Simulation	2-3-3	3
ISyE 6806	Feedback Dynamics	3-0-3	
Requisite or Elective			3
		Sub-total	15

Table 11

Health Systems Course Enrollment Summary
(Summer Quarter 1976 Through
Fall Quarter 1980)

Course No.	Course Title	(Rounded) Average Class Size	Sections Offered	Total Students Enrolled
1000	Overview of Health Systems	34	3	101
2011	The Health Field	25	15	372
3011	Hospital Functions	28	7	193
3021	Nonhospital Components	20	8	156
3115 (3972)*	Management Engineering I	14	5	69
3116 (3121)*	Management Engineering II	12	7	87
3117 (4131)*	Management Engineering III	15	6	89
3118 (4141)*	Management Engineering IV	12	5	62
3211	Data Processing	17	5	83
3332	Health Care Cost Analysis	11	1	11
3341	Health Systems Planning	11	2	22
3351	Projects and Reports	14	6	86
3780	Introduction to Urban Engineering	10	3	31
3971,2,3	Special Problems	1	3	4
4021	Community Health Problems	18	3	54
4351	Case Studies	16	3	48
4570	Field Training Proposal	7	13	89
4571,2,3	Senior Externship	6	13	81
4692,3	Seminars	13	6	75
4765	Hospital Management Systems	11	3	34
4861,2,3	Health Systems Topics	3	2	6
6001	Introduction to Health Systems	20	3	61
6231	Project Management	16	4	65
6331	Health Systems Analysis I	15	3	46
6332	Health Systems Analysis II	17	2	34
6333	Health Systems Analysis III	15	2	31
6340	Health Planning Techniques	17	2	33
6341	Health Systems Planning	14	3	41
6351	Research and Evaluation Methods	11	5	56
6570	Field Training Proposal	4	13	47
6571-6	Graduate Field Training	4	14	51
6765	Case Studies	11	3	34
8092,3	Graduate Seminars	11	7	80
8161,2,3,4	Topics in Health Systems	7	4	27
8971,2,3,4	Special Problems	1	10	13

*Numbers in parentheses indicate old course numbers in previous catalogs.

Table 12

Enrollment and Hours of Training

Course	No. of Sections	No. Students Enrolled	Credit Hours	Hours of Instruction*	Quarter Hours of Credit Produced**
Spring 1979					
H.S. 1000	1	32	1	10	32
H.S. 2011	1	37	3	30	111
H.S. 3021	1	14	3	30	42
H.S. 3115	1	9	4	40	36
H.S. 3117	1	21	3	30	63
H.S. 3118	1	9	3	30	27
H.S. 3211	1	22	3	30	66
H.S. 3351	1	18	3	30	54
H.S. 4570	1	11	1	10	4
H.S. 4692	1	13	1	10	13
H.S. 4693	1	8	1	10	8
H.S. 4765	1	11	3	30	33
H.S. 6333	1	17	3	30	51
H.S. 6341	1	15	3	30	45
H.S. 6351	1	1	3	10	3
H.S. 6570	1	5	1	10	5
H.S. 6571	1	5	1	10	5
H.S. 6572	1	5	2	20	10
H.S. 6573	1	2	3	30	6
H.S. 8092	1	9	1	10	9
H.S. 8093	1	1	1	10	1
		265	47	470	631
Summer 1979					
H.S. 3116	1	4	3	30	12
H.S. 4570	1	8	1	10	8
H.S. 4571	1	9	4	40	36
H.S. 4572	1	9	4	40	36
H.S. 4573	1	9	4	40	40
H.S. 6231	1	9	3	30	42
H.S. 6570	1	2	1	10	2
H.S. 6571	1	3	1	10	3
H.S. 6572	1	3	2	20	6
H.S. 6573	1	5	3	30	15
H.S. 6765	1	9	3	30	27
H.S. 8973	2	1	2	20	2
		78	32	310	229

Table 12--*Continued*

Course	No. of Sections	No. Students Enrolled	Credit Hours	Hours of Instruction*	Quarter Hours of Credit Produced**
Fall 1979					
H.S. 1000	1	37	1	10	37
H.S. 2011	2	49	3	30	147
H.S. 3011	1	29	3	30	87
H.S. 3115	1	16	4	40	64
H.S. 3118	1	13	3	30	39
H.S. 3332	1	11	3	30	33
H.S. 3780	1	15	3	30	45
H.S. 4570	1	5	1	10	5
H.S. 4571	1	6	4	40	24
H.S. 4572	1	6	4	40	24
H.S. 4573	1	6	4	40	24
H.S. 6001	1	11	3	30	33
H.S. 6351	1	16	3	30	48
H.S. 6570	3	2	1	10	2
H.S. 6571	1	2	1	10	2
H.S. 6572	1	2	2	20	4
H.S. 6573	1	3	3	30	9
H.S. 8161	1	1	3	30	3
H.S. 8971	(5)	11	1	10	11
		3	2	20	6
		3	1	10	3
		6	3	30	18
		6	1	10	6
		259	57	570	665
Total for three quarters		602		1350	1525
Total for Year 01		524		1340	1445
Total for Year 02		940		2730	2644
Total for Year 03		617		1580	1795
Project Total		2683		7000	7409

*"Hours of Instruction" is defined as the number of direct student contact hours per week times the number of weeks in a quarter (assumed to be 10).

**"Quarter Hours of Credit Produced" is defined as the credit hours assigned to a course times the number of students attending the course.

Table 13

Post-Graduate Status Summary
BSHS and MSHS Alumni (As of
January 24, 1980)

	BSHS	MSHS
Individual Hospitals	26	8
Health Care Consulting Firms	13	17
Hospital Associations (Shared Service Organizations)	13	6
Proprietary Hospital Chains	1	3
Health Systems Agencies (HSAs)	3	4
Government Agencies (Federal, State, local)		3
Health Maintenance Organizations	2	2
Insurance Companies	1	1
Sales (Hospital equipment and supplies)	1	
Medicine and Dentistry	2	
Medical and Dental Schools	6	2
Graduate Schools	6	
Military	5	
Non-health Fields	9	
Current Status Unknown	14	1
Seeking employment	4	2
Total	106	51

A more detailed "Administrative Analysis of the H.S. Graduate Program" is included as Appendix 5. This study of the H.S. graduate program deals with descriptive statistics on program publicity, applications and admissions, attributes of entering students, enrollment data, field training, academic records, and initial placement of alumni. This analysis concentrates upon administrative and procedural aspects of the MSHS program and represents a first step at a unified effort to increase the graduate student enrollment in the School of Health Systems. Highlighted are MSHS activities from Summer Quarter 1975 through Fall Quarter 1979.

Publicity and Promotion

The School of Health Systems has continued to attract good students at both the BSHS and MSHS levels. An ongoing publicity and promotion effort has been useful. During the past year, major mailings were made in an effort to publicize the degree opportunities in Health Systems. Included in these mailings were several items of promotional material developed by the School, some in conjunction with the Georgia Tech Office of Publications. Promotional material developed or rewritten during this past year included:

1. Health Systems Curricula and Courses--an 11-page, 6" x 9" brochure describing the instructional program and including course descriptions.
2. Health Systems Questions and Answers--a six-panel flyer describing health systems as a career field.
3. Graduate Study Opportunities--a one-page flyer describing the MSHS curricula.
4. Graduate Study in Health Systems--a poster advertising the MSHS curricula.
5. Advertisements and listings in professional journals.

These materials are submitted as an exhibit to the present report.

On the Georgia Tech campus, the School of Health Systems participated in a summer program to introduce minority students to various engineering desciplines, and also a similar program for merit scholar finalists. In addition, students at Tech continue to develop an interest in Health Systems by taking either one or both of H.S. 1000, "Overview of Health Systems" and H.S. 2011, "The Health Field."

Cooperative Arrangements

Since the inception of the Health Systems Research Center in 1969 and the emergence of the Program of Health Systems in 1972, many cooperative ties and collaborative arrangements have been established with other Georgia Tech resources, with other academic institutions, and with various health institutions and agencies. Some of these arrangements were established for specific individual projects, while others are more general in nature.

Through the research and community outreach activities of the Health Systems Research Center and as an extension of the credit education activities of the School of Health Systems, many health planning agencies, hospitals, nursing homes, and other groups have cooperated and assisted in carrying out various programs associated with the improvement of health service delivery and with the training and education of health systems planners and analysts.

Through activities associated with research in the field of emergency medical services, the Health Systems Research Center has cooperative ties with many organizations, which include the following: the Emergency Health Unit of the Georgia Department of Human Resources; Georgia Heart Association; Albany Area Technical School; Dougherty County Police Department (Albany); Illinois Department of Emergency Medical Services; DeKalb County Police Department (Decatur); DeKalb County Fire Department (Decatur); Emergency Health Services Advisory Committee (Georgia EMS Committee); Palmyra Park Hospital (Albany). In addition, EMS activities have resulted in various collaborative arranagements being established with physician consultants and various other consultants.

The Health Systems Research Center also maintains a close working relationship with the Atlanta Regional Commission which is responsible for coordinating land use, transportation, criminal justice, and other comprehensive regional planning activities in Metropolitan Atlanta; various health planning agencies throughout the State including the HSAs within Georgia and the Health Planning/Development Center, which is the "Center for Health Planning" for DHEW Region IV (established in Atlanta under PL 93-641); and various divisions of the Georgia Department of Human Resources.

As described above, a wide range of health delivery and health planning settings are used for project activities. Additional arrangements with health delivery and health planning components and with various resources will be effected in the future as appropriate and necessary in order to provide suitable learning experiences for Health Systems students.

The field training program has continued to be a valuable cooperative endeavor for both students and sites. Meaningful projects continue to emerge, resulting in numerous opportunities for students to develop workable solutions to real-world problems. Some 130 field training projects were completed during the four years of this training project. Seventy-nine of these projects were conducted by undergraduate students with the remaining 51 done by graduate students. During this project period, 28 field training projects were completed at some 17 sites in the metropolitan Atlanta area; in Griffin and Gainesville, Georgia; and in Grand Junction, Colorado. Of these projects, 16 were completed by BSHS students and 12 by MSHS students. See Appendix 6.

Another program which has provided MSHS students with valuable work experience has been the Sponsored Graduate Research Assistantship Program. Students who participate in this program are assigned to work part-time at sponsoring sites. Under contractual arrangements, each site provides funding, and Georgia Tech pays stipends to the students which helps to pay for their education. In return for their investment, the sites receive valuable technical assistance to which, in many cases, they would otherwise not have access. During the project period, there were 6 hospitals, 1 health maintenance organization, 2 consulting firms, 2 planning agencies, and 1 group medical practice participating as sponsors, giving a total of 12 sponsored GRA sites.

Projects completed or underway at these sites included the development of computer programs to analyze clinical data, the development of on-line patient classification systems, the establishment of staffing and personnel policies, the establishment of employee suggestion programs, and various needs assessment projects.

EVALUATION

As outlined in the original training project proposal, two levels of specificity are involved in completing the evaluation of this training project. The first level, only briefly mentioned in the original proposal, is that of stated project objectives; that is, an analysis of whether or not the objectives reiterated in the "Introduction" section of this report have been achieved. A second, more specific group of criteria to be used in evaluation were also described in the original proposal. These criteria consist of determinations in the following areas:

1. The appropriateness of the curricula,
2. The suitability of teaching-learning methods and materials,
3. The success of graduates in creating workable solutions to actual problems of the health care planning agencies and organizations that employ them,
4. The extent to which the training project provided a body of knowledge in the methods and techniques of generating and providing health systems manpower, and
5. The extent to which this training project is instrumental in inducing other academic institutions to establish similar curricula.

The clear intent of the project proposal is that, beyond the analysis against project objectives, the final evaluation focus on the third criteria listed, i.e., the success of graduates in creating workable solutions to actual problems, with the first two criteria listed being slightly less important and the last two criteria receiving the least attention.

The plan for the final evaluation of the project was developed to give an appropriate emphasis to each of the stated project objectives and the criteria as outlined above. The overall plan was detailed in the Year 03 progress report on this project. That plan forms the framework within which all evaluative data have been collected and analyzed. It is helpful to review the variety of mechanisms used to collect data for the final evaluation.

Techniques of Data Collection

In many cases, data considered to be important for the purposes of a final evaluation have been accumulating over the four-year training

project period, collected as part of the School of Health Systems' continual program of self-examination and improvement. Three particular systems of documentation are of particular importance, these being the students' academic records, quarterly student critiques of Health Systems courses and records of graduate placement. In addition to the data available from these three systems, data were gathered through five systems which were developed and implemented during Year 04 of the project. These new data collection mechanisms are described in the following sections.

Undergraduate Extern Questionnaire (UEQ)

The attitudes and perceptions of the H.S. undergraduates, particularly as they approach graduation, form an important pool of data regarding the educational process that these individuals have experienced. In order to collect these data, a questionnaire was developed and initially distributed to H.S. students during Year 04 of the project (see Appendix 7 for questionnaire). The students receiving this questionnaire were at the point of completing their Senior Externship, and were normally within one quarter of graduation. The questionnaire was structured to obtain specific information about the Externship, but also provided an opportunity to comment on broader matters of education.

Masters Project Questionnaire (MPQ)

Because the Masters Project carried out by MSHS students "caps" the educational program for these individuals, it was considered important that data be collected regarding the students' preparation for and reactions to this phase of their degree work. A questionnaire was designed and implemented to collect relevant data on each student's Masters Project (see Appendix 8 for questionnaire).

Out-of-Department Course Evaluation (ODCE)

All graduate students supply information regarding each of the courses they enroll in outside the School of Health Systems. This information is collected on the ODCE (see Appendix 9 for form), and permits faculty and staff of the School to evaluate curricula content and course selection. This form is used on a continuing basis, having been implemented during Year 04.

Masters Candidate's Exit Evaluation (MCEE)

The MCEE Provides data on the overall educational process for each MSHS student, and is distributed to the students during the last quarter of the degree program (see Appendix 10 for questionnaire). The questionnaire covers out-of-department courses as well as H.S. courses, curricula relevance and construction, evaluation of H.S. faculty and student goals, among other areas.

Survey of Alumni and Supervisors of Alumni

In November 1979, a survey of all alumni of the School of Health Systems and their respective supervisors was initiated. The survey took the form of a mailed packet containing two questionnaires; one questionnaire to be completed by the alumnus, and a separate questionnaire for the person indicated by the alumnus as his or her supervisor. Each of the questionnaires used was carefully designed to collect relevant data in a compatible manner, i.e., so that comparisons would be facilitated between paired questionnaires (see Appendices 11 and 12 for the questionnaires and their accompanying cover letters). The distribution of the survey and subsequent data analyses consumed the majority of time spent in final evaluation of the training project, and provided the core of data needed to effectively evaluate such criteria as "appropriateness of the curricula" and "success of graduates."

Questionnaire Structure. The general outlines for each of the two questionnaires used in the survey were similar to earlier questionnaires used by the School of Health Systems in evaluating a previous training project. However, significant effort was required to adapt the required questionnaires to use by both BSHS and MSHS graduates, and to allow for situations such as (a) employment outside the health care environment, (b) alumni with both BSHS and MSHS degrees, (c) individuals who had completed their degrees before options (in the undergraduate program) had been offered and (d) graduated under differing course requirements. Where possible, Likert-type scales were provided for making responses to individual questions. Both the alumni questionnaire (AQ) and the supervisor questionnaire (SQ) were structured in sections, with particular types of information being included in each section and, in some cases, by sub-section. Table 14 gives a comparative description of the structure of the two questionnaires.

Table 14

Structure of Questionnaires for Survey of Alumni and Supervisors of Alumni

Substance of Question Content	Location of Questions	
	Alumni Questionnaire	Supervisor Questionnaire
A. Identification	Section 1	Section 1
B. Description of Educational Process	Section 2, Questions 1-6	Section 2, Question 4
C. Job Experience	Section 3, Questions 1, 5-7,9,10	Section 2, Questions 1-3
D. Familiarity with Alumnus	-	Section 2, Questions 5,6
E. Administrative Aspects of H.S. Educational Program	Section 2, Questions 7-13	-
F. General Value of H.S. Education Program	Section 3, Questions 2-4,8: Section 4, Questions 1-3; Section 5, Questions 3,4	Section 3, Questions 1-6
G. Subject Areas in H.S. Educational Program	Section 5, Question 1 (first part, "Subject Areas")	Section 4, Question 1
H. Techniques Taught in H.S. Educational Program	Section 5, Question 1 (second part, "Techniques")	-
I. Managerial Problems for Alumnus Solution	Section 5, Question 2	Section 4, Question 2
J. Improvement of H.S. Educational Program	Section 5, Question 5	Section 4, Question 3
K. Job-Oriented Attitudes By/Regarding Alumnus	Section 4, Questions 4-14	Section 3, Questions 7-19
L. General Issues in H.S. Educational Program and Demand for Graduates	Section 6	Section 5

Data Collection

Internal School records, including the academic records, quarterly course critiques and records of graduate placement, along with completed UEQs, MPQs, ODCEs and MCEEs, have been gathered for purposes of final evaluation. Indeed, certain of these sources have received extensive attention in other projects, and there exist detailed analyses of associated data. (For example, see Appendix 13 for the most recent analysis of quarterly course critiques.) The only large-scale data collection activity undertaken as part of the final evaluation was the distribution and tabulation of returned data in the Survey of Alumni and Supervisors of Alumni.

Data from Academic Records

Data on course offerings, student enrollments in specific courses and sections of courses, School enrollments by quarter, and other significant aspects of the training project have been presented in previous progress reports, and in the "Training Activities" section of this report.

Data from Quarterly Course Critiques

The relevant measures relating to the course critiques completed over the time period covered by the training project are included in the report included as Appendix 13 of this report.

Data from Records of Graduate Placement

The records of graduate placement, mainly consisting of addresses of employers, have been used to tabulate information contained in Table 13 of the "Training Activities" section, giving a breakdown of type of employer for the School's alumni. These records were also used to mail out the Survey of Alumni and Supervisors of Alumni.

Data from UEQs

The UEQ has been distributed to appropriate undergraduates every quarter since the Winter 1979 quarter. A total of 26 students had completed their Externships by December 1979, and 6 UEQs have been returned. This low response rate (23%) must be attributed to the lack of sanction or other remedial actions used to assure questionnaire completion. The small sample of UEQs available permits only certain tentative conclusions to be drawn regarding Externships and student experiences while doing their Externships.

Data from MPQs

The MPQ has been distributed to all graduate students completing their Masters Project since the Summer 1979 quarter. By December 1979, 11 MPQs had been distributed and five MPQs returned. Although this rate of return (45%) is higher than than of the UEQ, the small number of returned MPQs makes drawing definite conclusions based on their data difficult.

Data from ODCEs

OCDEs have been collected from all graduate students in the School since Fall Quarter 1978. To a large extent, the data which can be drawn from the ODCEs have served as a useful advising tool and, hence, have been a continual improvement mechanism for the School. A copy of the quarterly summary of ODCEs for a selected quarter is shown in Appendix 14.

Data from MCEEs

The MCEE was initially distributed during Spring Quarter 1979 and has been given to all MSHS graduates since then. From that quarter until December 1979, 11 MSHS degrees were awarded and 8 completed MCEEs were collected from the alumni. The return rate (73%) is high, reflecting the general level of concern that alumni have for the quality of education offered by the School. The feedback included in the MCEE provides an excellent indication of the total impact of School coursework, course expectations, course sequencing and perceived program value.

Data from Survey of Alumni and Supervisors of Alumni

The Survey of Alumni and Supervisors of Alumni was an attempt to gather a set of data which would allow the educational preparation received through the School of Health Systems to be placed in perspective, as it relates to the expectations and desires of both School alumni and their respective supervisors. The Survey was sent to all alumni of the School of Health Systems, and of the School's forerunner organizational structure, the Program in Health Systems. As described earlier, each of the alumni's supervisors was also expected to respond to the Survey, through a separate questionnaire. Table 15 shows, by various dimensions of concern, the response rates to the Survey for alumni.

Table 15

The Alumni Response to Survey of Alumni and Supervisors of Alumni

Period	Degrees Awarded				Respondents to Survey			
	BS/BSHS		MSHS		BS/BSHS Alumni		MSHS Alumni	
	Number	Percent*	Number	Percent*	Number	Period*	Number	Period*
Calendar Year 1974	6	5.9	0	0.0	4	9.1	0	0.0
Calendar Year 1975	13	12.9	0	0.0	6	13.6	0	0.0
Calendar Year 1976	17	16.8	12	25.0	6	13.6	6	27.3
Calendar Year 1977	20	19.8	11	22.9	9	20.5	2	9.1
Calendar Year 1978	25	24.8	11	22.9	11	25.0	7	31.8
Winter 1979 Quarter to Summer 1979 Quarter	20	19.8	14	29.2	8	18.2	7	31.8
Total	101	100.0	48	100.0	44	100.0	22	100.0

*Percentages measured against column total

As can be seen from Table 15, 44 of the 101 BS/BSHS alumni responded to the Survey, yielding a response rate of 43.6 percent. In addition, 22 of the 48 MSHS alumni responded, yielding a 45.8 percent response rate for this group. There was no follow-up to the initial mailing of questionnaires, so that the reported response rates reflect a moderately good overall response by alumni to the Survey. Among those alumni reponding to the Survey were three individuals who received both BSHS and MSHS degrees from the School.

Superiors of alumni did not respond to the same degree as alumni, with a total of only 34 supervisors choosing to respond. Table 16 gives a summary of the returned supervisor's questionnaires. The return rate for supervisors is difficult to calculate, based on the fact that some of the School's alumni had both BSHS and MSHS degrees, but would be estimated as approximately 23.6 percent. It is, however, important to note that, of the 63 alumni responding to the Survey (41 with BS/BSHS degrees, 19 with MSHS degrees and 3 with both BS/BSHS and MSHS degrees), 31 could be matched with their respective supervisor's questionnaire (18 supervising BS/BSHS alumni, 10 supervising MSHS alumni and three who supervise alumni with both BS/BSHS and MSHS degrees).

Almost to a person, the individuals responding to the Survey of Alumni and Supervisors of Alumni returned completely filled-out questionnaires. All sections described in Table 14 were treated with equal effort (in terms of completion), and a wealth of data could be abstracted from the questionnaires.

Data Analysis and Conclusions

Certain portions of all data discussed in the "Data Collection" section, are of importance in addressing the overall questions posed in carrying out the final evaluation of the training project.* This section of the report will focus on, first, the objectives of the training project and, second, the criteria listed on the first page of

*A corollary statement is that portions of the data collected are not particularly important to the final evaluation described here. These data have been left out of the discussion of data analysis, though some analyses have been carried out on these "unimportant" data. In particular, the Survey of Alumni and Supervisors of Alumni yielded a large quantity of data which were not considered useful in this final evaluation.

Table 16

The Supervisors Response to Survey of Alumni and Supervisors of Alumni

Period	Alumni Superiors Responding							
	Associated Alumni Also Responded				Associated Alumni Did Not Respond			
	BS/BSHS		MSHS		BS/BSHS		MSHS	
	Number	Percent*	Number	Percent*	Number	Percent*	Number	Percent*
Calendar Year 1974	1	4.8	0	0.0	0	0.0	0	0.0
Calendar Year 1975	4	19.0	0	0.0	1	100.0	0	0.0
Calendar Year 1976	3	14.3	3	23.1	0	0.0	1	33.3
Calendar Year 1977	4	19.0	0	0.0	0	0.0	2	66.7
Calendar Year 1978	5	23.8	4	30.8	0	0.0	0	0.0
Winter 1979 Quarter to Summer 1979 Quarter	4	19.0	6	46.1	0	0.0	0	0.0
Total	21	100.0	13	100.0	1	100.0	3	100.0

*Percentages measured against column total

the "Evaluation" section. For each objective and criteria considered, data coming from all relevant sources will be discussed and appropriate conclusions--the final evaluation--drawn.

Discussion Regarding the Objective "Design undergraduate and graduate curricula..."

As described in the "Project Plans" section of the original proposal, the training project was "...to build upon and expand the existing curricula in Health Systems for the purpose of producing health systems planners." Plans presented detailed a number of areas into which effort would be funneled to provide the suggested curricula additions.

The specific steps to be taken in expanding the curricula described in the proposal have, with quite appropriate exception, been completed. Notable among the revisions to the original plan, and indicative of the quality of any variances from original plans, was the decision not to develop a new course, H.S. 4475, "Introduction to Feedback Dynamics," since such a course would be duplicative of a course already offered on the Georgia Tech campus (i.e., I.Sy.E. 4028, "Introduction to Feedback Dynamics"). As described in project progress reports, and in earlier sections of this report, courses which would provide the planning "options" to undergraduate and graduate students have been developed, taught and refined. Training sites for both groups of students have been developed and placement of School graduates has proceeded with great success. Thus, the following situation exists in the final analysis:

> OBJECTIVE: To design undergraduate and graduate curricula and to develop specific courses for the purpose of producing health systems planners.
> CONCLUSION REGARDING OBJECTIVE: That, based on documented results presented in this report and previous progress reports, both undergraduate and graduate curricula to produce health systems planners have been successfully developed.

Discussion Regarding the Objective "Modify and expand the existing curricula..."

As is clear from a comparison of statistics on course offerings during the first year of the training project (i.e., as drawn from Chart 7 in the Year 01 Progress Report, "Enrollment and Hours of Training") and during the final year of the training project (i.e., Table 12 of this report), the courses available through the School of Health Systems have been greatly expanded, with comparable increases in total hours of instruction, course enrollments, etc. There is also clear evidence of

efforts to improve (modify) the curricula through revision in course requirements for BSHS and MSHS degrees, through redefinition of course prerequisites and through refinement in course materials (e.g., outlines, textbook choices, etc.). Documentation of all of these improvements is included in the progress reports and final report for the project.

> OBJECTIVE: To modify and expand the existing curricula in Health Systems at both the undergraduate and graduate levels.
> CONCLUSION REGARDING OBJECTIVE: That modification and expansion has taken place, and that improvement in the Health Systems educational program has resulted from these changes.

Discussion Regarding the Objective "Draw upon appropriate resources at Georgia Tech in order to integrate various disciplines into a multidisciplinary planning curriculum"

In the process of developing planning options at the graduate and undergraduate levels, out-of-department courses were integrated into the curricula where appropriate (as outlined in the proposal for this project and detailed in progress reports). Feedback from students through the ODCEs and MCEEs indicates that, for the most part, courses which are used are of good quality. Unfortunately, no effective means has yet been developed to gather similar information at the undergraduate level, though some of this type of information can be gleaned from the UEQs, and through student advising sessions.

A subjective analysis of the state of affairs in integration would suggest that, though certain opportunities do exist for cooperation among various disciplines (e.g., H.S. 3780, "Introduction to Urban Engineering"), the rate of integration is slow and will require increased attention to achieve significant breakthroughs. Health Systems is pursuing some avenues to such integration, particularly in the area of bioengineering. However, only limited impact from multidisciplinary efforts has been realized in the curricula of the School.

> OBJECTIVE: To draw upon appropriate resources at Georgia Tech in order to integrate various disciplines into a multidisciplinary planning curriculum.
> CONCLUSION REGARDING OBJECTIVE: That the beginnings of such integration have been investigated and to a limited extent implemented, but that further integration will require effort beyond that which has been devoted to this concept to date.

Problems abound in attempting to formulate multidisciplinary programs. For example, a course originally intended to take an important place in the planning option curriculum was Sociology 3310, "Demographic Analysis." However, this course has not been offered often enough for

it to be a feasible required course. Other fundamental problems include course scheduling, where offerings of useful, valuable courses are allocated conflicting time slots. Another problem is prerequisite relationships, where decisions as to appropriate listings for prerequisites are handled internally by the concerned School.

Discussion Regarding the Objective "Evaluate the effectiveness of the proposed training program and the utilization of program graduates"

The ongoing efforts in the School to increase effectiveness in training health planners are reflected in the detail to which data are gathered for such purposes. Continual attention is given to course refinement and curricula composition, and changes have been/are made where they were deemed important. This final evaluation, seen in the light of a continual improvement process, also yields information upon which certain changes may be based. All of these changes which have occurred in the courses, curricula and School have been documented in progress reports and in this final report.

The remaining sections of this report deal with the specific criteria chosen as necessary in determining the "effectiveness of the proposed training program and the utilization of program graduates." It is expected that the attentive reader will obtain sufficient information regarding the five criteria mentioned at the beginning of the "Evaluation" section to conclude that an effective evaluation of the training project has been accomplished.

OBJECTIVE: To evaluate the effectiveness of the proposed training program and the utilization of program graduates.
CONCLUSION REGARDING OBJECTIVE: That information provided in the remainder of this report satisfies the objective.

Discussion Regarding the Criterion "Determine the appropriateness of the curricula"

It is felt that those individuals best able to assess appropriateness of the School's curricula, and available for such an assessment, are the graduates of the School, whose careers are intimately tied to the academic program of the School. Besides the alumni, the supervisors of these alumni also provide a source which can address questions of appropriateness, the conclusions drawn from the Survey of Alumni and Supervisors of Alumni will be considered the most significant information available for the evaluation of this training project.

One level of analysis in studying appropriateness is the National Advisory Committee, which has, at earlier stages of the training project, reviewed course materials and curricula and recommended modifications where appropriate. However, this input must be considered a part of the ongoing self-examination process for the School and does not directly address the final evaluation. A second level of analysis more closely related to final evaluation are the comments and responses to questions on the UEQ, the MPQ and the MCEE. Because these questionnaires are completed at or near the conclusion of the undergraduate's Externship (for the UEQ) or the graduate student's Masters Project (for the MPQ and MCEE), the feedback reflects the students' experience in "real-world" situations and gives some impression of the possible gaps these individuals perceive in their educational program. This feedback can be considered significant since Externships and Masters Projects do tend to incorporate aspects of assignments that one might expect once employed.

A review of the six UEQs returned (five completed by students following the analysis option, one completed for student following planning option) allows certain tentative comments on appropriateness of curricula. First, and in general, students felt sufficiently prepared to undertake the Externship assignments they received. The exceptions to this statement occurred when (a) a student chose to do the Externship without completing the necessary prerequisites, (b) a student who was following the analysis option was assigned an Externship project which relied on planning techniques (i.e., health status measurement, accessibility of care measurement and quality of care measurement, all of which are covered in planning courses in the School), and (c) an Externship assignment required the use of job evaluation. Except for this third situation the problems described can be explained easily by reviewing the students' preparation, which in both cases were matters of choice for the students. The third situation, involving job evaluation, is also understandable given that, in the course covering this technique, minimal time is devoted to the topic. This is a matter of prioritization in course coverage, but does not reflect a lack of coverage; course documentation for the course in question (i.e., H.S. 3115, "Management Engineering I") specifies that job evaluation be included in course topics.

Responses on the five MPQs available (three for students following the analysis option, two following the planning option) indicated the same general level of satisfaction regarding preparation that was shown on the UEQs. Only two situations were mentioned where an "insufficient" preparation was perceived; once in techniques of project management, and once in computer programming and data processing. The first situation could be explained, in that the student had not completed the required course in project management (i.e., H.S. 6231) before starting the Masters Project. The second situation, regarding computer programming and data processing, could represent a problem if such comments were common on MPQs. The curricula in Health Systems at the graduate level emphasizes practical application of the computer to problem solution, but does not include specific coursework (beyond basic computer programming) in computer use.

The eight MCEEs completed by MSHS alumni provide two types of information particularly relevant to discussion of curricula appropriateness. First, it is significant that, of the eight alumni, one chose to complete requirements under both analysis and planning options, four began and finished the MSHS program under the analysis option, two began and finished under the planning option, and one alumnus began the MSHS program under the planning option but switched to the analysis option. Of the alumnus completing both sets of option requirements and the alumnus switching from the planning option to the analysis option, each gave a similar reason for interest in the analysis option; it was, that the analysis option seemed to be more "quantitative" than the planning option. Although the sample of MCEEs is small, this type of perception might be significant were it discovered in subsequent MCEEs.

In terms of preparation in particular techniques areas, the data from the MCEEs indicated that, to a moderate extent, students desired more preparation in financial areas, i.e., hospital finance and health economics, as well as accounting. Beyond these possible additions, the course-oriented comments seemed to suggest that certain courses (e.g., H.S. 6331, "Health Systems Analysis I") contained more material than could be effectively learned in the time allotted to the course and that expansion of these courses would be an improvement in the program. Certain other courses were mentioned as possibly requiring less time than presently allotted.

Another source of information regarding the appropriateness of curricula is feedback from alumni employers and college recruiters. Though no formal system exists to collect this information, the record of placement of School alumni is excellent, indirectly gauging the level of satisfaction with alumni's preparation. In addition, records on achievement of alumni, particularly relating to promotion within employing organizations, indicate the positive nature of curricula content (though, also, quite indirectly).

The most direct method for evaluating the appropriateness of curricula which has been undertaken for this final evaluation is the Survey of Alumni and Supervisors of Alumni. Several sections of the questionnaires distributed in this Survey relate to appropriateness; two are considered most meaningful. The first, Section G, "Subject Areas in H.S. Educational Program," allows both alumni and supervisors to rate (a) preparation in and (b) utility of specific areas of course coverage. The second most important section of the questionnaires is Section H, "Techniques Taught in H.S. Educational Program," where identical rating questions as in Section G are posed. Other sections of the questionnaires that might be of interest are Sections F, I and J (see Table 14 for section titles).

The methods used in analyzing Survey question responses for the sections mentioned in the preceeding paragraph were, first, to calculate the median response for each question and, second (where appropriate), to rank the median values within sections.* To assess appropriateness, one must take both rankings (i.e., preparation and utility) into consideration. There is no inherent reason for assuming that preparation and utility rankings must be positively correlated; subjective judgements are, thus, legitimate in drawing conclusions on the results of rankings.

In addition to decisions on data analysis methods, a decision has been (subjectively) made as to which of an infinite number of possible graphics would be included in this report. Those considered of vital

*As can be seen from examination of the questionnaires (Appendices 11 and 12), responses were generally forced onto an ordinal scale. The median is an appropriate measure of central tendency for ordinal data. The calculation of median values followed that proposed by Null et al. in Statistical Package for the Social Sciences (New York: McGraw-Hill Book Company, 1970), i.e., assuming continuous data are forced into an ordinal scaling scheme.

importance have been provided; those representing less important comparisons, contrasts, etc., have been eliminated (though discussion of results which might have been shown graphically in these eliminated tables will be included). For example, it would have been particularly interesting to have had results presented for those BS/BSHS alumni who followed the planning option, and have provided graphic summaries of such results. However, only 2 of the 44 BS/BSHS alumni returning a completed questionnaire said they had followed the planning option.* A graphic based on two responses per question would not have been useful.

In investigating responses to the questionnaires, the first "cut" involved analysis of all alumni responses as a single group (i.e., a sample of 63 alumni) and all supervisors responses as a group (i.e., a sample of 34 supervisors). However, this analysis masked definite differences between BS/BSHS alumni and MSHS alumni, and was confounded by the third type of alumni, i.e., the individuals who had received both BS/BSHS and MSHS degrees through the School. Therefore, the analyses presented in this report will generally separate responses from BS/BSHS alumni and MSHS alumni (and individuals' responses are eliminated for those receiving both BS/BSHS and MSHS degrees). Responses by supervisors are similarly separated, and are paired with their respective alumni. The only exceptions to this "standard" of separation are the analyses in Tables 17 and 18. Results in these two tables are based on the total sample of alumni-supervisor pairs of returned questionnaires (which yields 31 pairings of questionnaires, as described previously).

Examination of the results shown in Tables 17 and 18 provides some interesting information. Table 17, concerning Section G ("Subject Areas in H.S. Educational Program") responses seems to show that alumni and their supervisors are quite similar when ranking the subject areas included in the School's curricula in terms of utility (i.e., usefulness on the job). Using a common nonparametric test for agreement in rankings,

*This proportion (two out of 44) understates the present situation. Ten of the BS/BSHS alumni graduated before there was a planning option available. Since being available, the planning option has been moderately attractive to undergraduates. Though no records exist as to actual numbers of students enrolling in the various undergraduate options, the data reported for students returning the UEQs, regarding option choice, may more accurately reflect present decisions of undergraduates. (NOTE: The undergraduate and graduate students represent quite different decision patterns regarding option choice.)

Table 17

Subject Area Results Based on All Alumnus-Supervisor Pairings

Area	Alumni				Supervisors			
	Preparation		Utility		Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*	Median Value	Rank*	Median Value	Rank*
1. Accounting	2.250	10	2.950	7	3.000	10	3.850	6
2. Economics	3.000	9	2.375	10	3.088	9	3.167	9
3. General Orientation to the Health Field	4.154	1	4.182	4	3.969	2	4.531	3
4. Health Issues, Problems and Needs	4.036	2	3.889	5	3.719	5	3.846	7
5. Hospital Functions and Organization	3.950	4	4.684	1	3.889	3	4.684	1
6. Non-hospital Components of the Health Care System	3.656	6	2.727	9	3.417	7	3.100	10
7. Health Systems Analysis Techniques	4.000	3	4.531	2	4.031	1	4.639	2
8. Information Systems	3.150	7	3.650	6	3.429	6	4.250	4
9. Probability and Statistics	3.750	5	4.222	3	3.800	4	4.000	5
10. Psychology and Sociology	3.042	8	2.792	8	3.175	8	3.375	8

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 18

Managerial Problems Results Based on All Alumnus-Supervisor Pairings

	Alumni				Supervisors			
	Preparation		Utility		Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*	Median Value	Rank*	Median Value	Rank*
1. Improving Work Methods	3.333	1	4.063	5(2)	3.458	5	4.133	6
2. Management of Information	3.208	5	3.938	6	3.688	3	4.333	3(2)
3. Job Analysis and Evaluation	2.958	9(2)	3.714	11	3.455	6	3.636	10
4. Employee Motivation and Compensation	2.208	14	3.333	14	3.000	15	3.318	13
5. Anticipating Future Requirements	3.091	7	4.179	2	3.615	4	3.909	9
6. Inventory Management and Control	3.150	6	3.438	12	3.333	10	3.583	12
7. Facilities Design and Space Utilization	3.286	4	4.063	5(2)	3.731	1	4.031	7
8. Costing and Economic Evaluation	2.958	9(2)	3.846	7	3.367	9	4.409	2
9. Resource Allocation	3.031	8	3.818	8	3.393	8	4.250	4
10. Staffing and Scheduling	3.308	3	4.125	4	3.714	2	4.500	1
11. Personnel Administration	2.231	13	2.750	15	2.781	16	3.000	14(2)
12. Planning Health Facilities	3.313	2	3.417	13	3.200	12	3.600	11
13. Financial Management and Control	2.250	12	3.750	10	3.007	14	4.000	8
14. Project Management	2.909	10	4.154	3	3.269	11	4.192	5
15. Cost Containment	2.850	11	4.438	1	3.417	7	4.333	3(2)
16. Compliance with Regulatory Requirements	2.000	15	3.813	9	3.125	13	3.000	14(2)

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

the Spearman rank correlation coefficient,* one finds that a correlation of 0.903 exists between the two rankings (which is statistically significant at the 0.01 level). In addition, a correlation of 0.891 exists for the two rankings of preparation in these subject areas (also significant at the 0.01 level). These two correlation coefficients indicate that alumni are perceiving the same prioritization of abilities--and hence, need for preparation in these abilities--as the supervisors they work for/with are suggesting exists. If this situation can be assumed to exist, then, in evaluating appropriateness of curricula, the responses of each group can be treated with equal credibility. Thus, the reported median values for the alumni's preparation would indicate that, with the exception of accounting (median value of 2.250), alumni and their supervisors felt that preparation had generally been moderate or better (median values ranging from 3.000 to 4.154). (An examination of the curricula in Health Systems would suggest such a conclusion; it is reassuring that alumni and supervisors seem to agree.) Comparing the results on Table 18 with the comments reported from the MCEEs, it is interesting that, although economics and financing seem to be desired by graduate students, alumni and their supervisors rank each of these areas toward the bottom of their lists in utility (i.e., rankings by alumni and supervisors of 10 and 9, respectively, for economics, and 7 and 6, respectively, for accounting--closely related to finance).

Table 18 yields correlation coefficients of similar significance to those computed for Table 17 results. The correlation coefficient for rankings of preparation is 0.696, and for rankings of utility is 0.704 (both statistically significant at the 0.01 level). Thus, there seems to be agreement on the nature of problems which face alumni in their jobs between alumni and their supervisors, and on the relative importance in preparing to solve such problems. As with Table 17, the median values reported in preparation to solve the managerial problems defined are generally moderate (i.e., greater than 3.000), and those which are not are associated with problem areas which are generally ranked low in terms of utility (of such preparation).

*For an explanation of the calculation of the Spearman rank correlation coefficient, see Siegel's Nonparametric Statistics (New York: McGraw-Hill Book Company, 1956) or other nonparametric statistics references.

To obtain results which are not as "messy" (e.g., confounded by combining alumni with different degrees), several further analyses of responses to Sections G and I were performed using different sets of questionnaire data. In addition, certain analyses of results for Section H, identical in methods to analyses just described, were performed.

Consider Tables 19 and 20, which present results for Section G responses for BS/BSHS and MSHS alumni (i.e., subject area-oriented data). Comparison of the two sets of rankings shows that the two groups are virtually indistinguishable when describing subject area's utility (correlation coefficient of 0.736; statistically significant at the 0.01 level), and also quite similar in reporting preparation levels on a relative basis (correlation coefficient of 0.636; statistically significant at the 0.05 level). It is significant that, among median values for preparation in the various subject areas, the MSHS alumni data yielded four values less than 3.000, and that the BS/BSHS alumni data produced only two values less than 3.000. If the median values for the subject areas of accounting and economics are ignored, the MSHS alumni have two median values under 3.000. One of these is in psychology and sociology, which does not seem particularly bad when reviewing the utility ranking this subject area received. However, the second low median value is in the subject area of hospital functions and organization; the area ranked highest by them in terms of utility.*

Appropriateness of curricula, as investigated in this evaluation, must be considered for each of the alumni groups--BS/BSHS and MSHS alumni--as a separate question; this is necessary since the two groups move into different types of jobs (see Table 13). Although the subject area-level of analysis seems to indicate that the BS/BSHS alumni and the MSHS alumni receive, in general, the "same" training while in the School of Health Systems, and find similar needs for the preparation received, an analysis of educational preparation at the techniques level shows significant differences between the two groups.

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*An appropriate observation, related to all data analyzed in this final evaluation, is that the rankings are quite dependent on the types of jobs that alumni have chosen. A different selection of jobs might change rankings--as related to median values, as related to individuals' responses, etc.--and alter conclusions drawn in this final evaluation. Particular attention should be given to such shifting job placement when considering "lessons to be learned" from this evaluation.

Table 19

Subject Area Results Based on BS/BSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Accounting	2.881	10	2.786	7
2. Economics	2.978	9	2.250	9
3. General Orientation to the Health Field	4.079	2	4.056	3
4. Health Issues, Problems and Needs	3.889	4	3.417	5
5. Hospital Functions and Organization	4.111	1	4.636	1(2)
6. Non-hospital Components of the Health Care System	3.444	5	2.773	8
7. Health Systems Analysis Techniques	4.042	3	4.636	1(2)
8. Information Systems	3.063	7	4.250	2
9. Probability and Statistics	3.239	6	3.611	4
10. Psychology and Sociology	3.050	8	2.962	6

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 20

Subject Area Results Based on MSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Accounting	1.179	10	3.000	6
2. Economics	2.429	9	2.800	7
3. General Orientation to the Health Field	3.857	4	4.417	3(2)
4. Health Issues, Problems and Needs	4.000	1	4.550	2
5. Hospital Functions and Organization	2.875	7	4.636	1
6. Non-hospital Components of the Health Care System	3.417	5	2.750	8
7. Health Systems Analysis Techniques	3.950	2	4.417	3(2)
8. Information Systems	3.188	6	3.375	5
9. Probability and Statistics	3.875	3	4.250	4
10. Psychology and Sociology	2.667	8	2.400	9

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Tables 21 and 22 detail the results for techniques-oriented responses (Section H of questionnaires). These results show the large differences in BS/BSHS training and MSHS training. These differences are not by chance; many differences can easily be explained by examining course requirements in the two types of curricula. For example, the median values for preparation in planning techniques (i.e., health care needs assessment, health status measurement, quality of care measurement and accessibility of care measurement) are low in the ranking of techniques for BS/BSHS alumni, but relatively high in the ranking for MSHS alumni. This is, to a large extent, due to (a) the pattern of option choice differing between undergraduates and graduate students, and (b) the treatment of planning courses with respect to curricula design--that is, requiring certain planning courses for graduate students but making similar courses electives for all undergraduates. Thus, it is not of particular significance that such discrepancies exist in rankings of techniques between BS/BSHS alumni and MSHS alumni. It is unfortunate that no "correction" can be made to facilitate data analysis once such built-in differences are understood. Simple solutions, such as studying only responses for persons following the option of interest, miss significant impacts of training, such as the fact that, for undergraduates not following the planning option, an average of 2.5 courses were taken which are included in the planning option's course listing. An overall statement regarding the techniques-oriented responses is that, in general, low preparation values are observed on techniques ranked low in utility. Also, high rankings in preparation are not always associated with techniques ranked high in terms of utility. There seems to be some need to review certain preparatory materials to determine whether adjustments might be useful to more closely match high preparation to high utility techniques.

The last results tabulated and presented in table format are the results in Tables 23 and 24 , regarding Section I responses (i.e., "Managerial Problems for Alumnus Solution"). These results clearly reflect the differences in job positions for BS/BSHS alumni versus MSHS alumni. The alumni of the undergraduate program, being largely employed in health facilities, use the basic management engineering techniques (e.g., methods improvement) to a greater extent than MSHS graduates. The MSHS

Table 21

Techniques Results Based on BS/BSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Computer Programming and Data Processing	3.063	12	3.250	12(2)
2. Engineering Economy and Economic Decision-making	3.265	7	3.500	10(3)
3. Cost Accounting	2.676	24	3.550	9
4. Health Facility Planning	2.853	19	2.750	21
5. Facility Layout	3.188	8(2)	3.318	11
6. Materials Handling	2.500	29	3.227	13
7. Mathematical Modeling	2.367	31	2.115	29
8. Optimization Methods	3.000	14(2)	2.731	22
9. Forecasting	3.125	10	3.000	18(2)
10. Inventory Management and Control Techniques	3.038	13	3.250	12(2)
11. Job Analysis and Evaluation Techniques	2.917	18	3.583	8
12. Manpower Scheduling	3.111	11	4.026	3
13. Work Scheduling	3.188	8(2)	3.813	6
14. Methods Analysis and Work Simplification	3.310	5	3.962	4
15. Time Study	3.342	4	2.643	24
16. Work Sampling	3.571	3	3.682	7
17. Standard Data	3.300	6	2.900	19
18. Predetermined Motion Times	2.944	17(2)	1.722	31
19. Descriptive Statistics	2.800	22	3.222	14
20. Estimation and Hypothesis Testing	2.944	17(2)	2.214	28
21. Bivariate Analysis	2.594	25	1.591	33
22. Multivariate Analysis	2.385	30	1.611	32
23. Project Management Techniques	2.792	23	3.857	5

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 21--*Continued*

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
24. Quality Control	2.833	21	3.000	18(2)
25. Simulation	2.344	32	2.091	30
26. Queueing Theory	2.850	20	2.333	27
27. Staffing	3.175	9	4.100	2
28. Systems Analysis	3.625	2	4.500	1
29. Decision Theory	2.976	15	3.208	15
30. Sampling	3.636	1	3.500	10(3)
31. Project Evaluation	3.000	14(2)	3.500	10(3)
32. Decision Analysis	2.971	16	3.182	16
33. Group Consensus/Decision-making Techniques	2.545	27	3.143	17
34. Survey Instrument Design	2.591	26	2.667	23(2)
35. Health Care Needs Assessment	2.536	28	2.667	23(2)
36. Health Status Measurement	2.214	34	2.563	25
37. Quality of Care Measurement	2.273	33	2.813	20
38. Accessibility of Care Measurement	2.115	35	2.500	26

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 22

Techniques Results Based on MSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Computer Programming and Data Processing	3.250	10(5)	3.000	22(2)
2. Engineering Economy and Economic Decision-making	3.083	14	4.000	11(2)
3. Cost Accounting	1.400	27	2.500	25(2)
4. Health Facility Planning	2.400	22	3.600	14
5. Facility Layout	2.125	25	3.400	18
6. Materials Handling	2.083	26	3.286	21
7. Mathematical Modeling	3.250	10(5)	3.333	20(2)
8. Optimization Methods	2.917	16(2)	2.714	24
9. Forecasting	3.600	2	4.125	9
10. Inventory Management and Control Techniques	2.444	20	3.000	22(2)
11. Job Analysis and Evaluation Techniques	2.429	21	3.438	17
12. Manpower Scheduling	3.313	8	4.000	11(2)
13. Work Scheduling	3.222	11	4.417	4
14. Methods Analysis and Work Simplification	3.286	9	4.167	7
15. Time Study	3.000	15(2)	3.333	20(2)
16. Work Sampling	3.143	13	4.188	6
17. Standard Data	3.000	15(2)	3.667	13
18. Predetermined Motion Times	2.800	18	2.125	29(3)
19. Descriptive Statistics	3.500	4	4.600	2
20. Estimation and Hypothesis Testing	3.188	12	2.188	27
21. Bivariate Analysis	2.917	16(2)	2.125	29(3)
22. Multivariate Analysis	2.750	18(2)	2.125	29(3)
23. Project Management Techniques	3.571	3	4.143	8

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 22--*Continued*

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
24. Quality Control	2.357	23	2.167	28
25. Simulation	2.300	24	2.500	25(2)
26. Queueing Theory	2.750	18(2)	2.900	23
27. Staffing	3.250	10(5)	4.550	3
28. Systems Analysis	3.389	7	4.750	1
29. Decision Theory	2.875	17	3.375	19
30. Sampling	3.417	6(2)	4.313	5
31. Project Evaluation	3.250	10(5)	4.083	10
32. Decision Analysis	2.667	19	3.563	16
33. Group Consensus/Decision-making Techniques	3.688	1(2)	3.583	15(3)
34. Survey Instrument Design	3.688	1(2)	3.800	12
35. Health Care Needs Assessment	3.429	5(2)	3.583	15(3)
36. Health Status Measurement	3.429	5(2)	2.083	30
37. Quality of Care Measurement	3.250	10(5)	3.583	15(3)
38. Accessibility of Care Measurement	3.417	6(2)	2.250	26

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 23

Managerial Problems Results Based on BS/BSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Improving Work Methods	3.125	2	3.909	3(2)
2. Management of Information	2.906	7	4.154	1
3. Job Analysis and Evaluation	2.925	6	3.636	7
4. Employee Motivation and Compensation	2.063	14	3.333	12
5. Anticipating Future Requirements	2.469	11	3.792	4
6. Inventory Management and Control	2.964	5	3.182	13
7. Facilities Design and Space Utilization	3.067	3(2)	3.556	8
8. Costing and Economic Evaluation	2.719	9	3.438	10
9. Resource Allocation	2.806	8	3.455	9
10. Staffing and Scheduling	3.400	1	3.727	5
11. Personnel Administration	2.125	13	2.929	15
12. Planning Health Facilities	3.067	3(2)	3.000	14
13. Financial Management and Control	2.324	12	3.667	6
14. Project Management	2.471	10	3.909	3(2)
15. Cost Containment	2.969	4	3.958	2
16. Compliance with Regulatory Requirements	1.607	15	3.400	11

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

Table 24

Managerial Problems Results Based on MSHS Alumni Responding to Survey

Area	Preparation		Utility	
	Median Value	Rank*	Median Value	Rank*
1. Improving Work Methods	3.063	2	3.417	12
2. Management of Information	3.000	4(2)	3.444	10
3. Job Analysis and Evaluation	3.000	4(2)	3.429	11
4. Employee Motivation and Compensation	2.222	9	3.250	14
5. Anticipating Future Requirements	2.800	6(2)	4.063	5
6. Inventory Management and Control	2.917	5	3.200	15
7. Facilities Design and Space Utilization	2.000	12	3.875	7
8. Costing and Economic Evaluation	2.313	8(2)	3.950	6
9. Resource Allocation	2.778	7	3.833	8
10. Staffing and Scheduling	3.050	3	4.167	4
11. Personnel Administration	2.313	8(2)	3.063	16
12. Planning Health Facilities	2.143	11	3.333	13
13. Financial Management and Control	1.800	13	4.200	3
14. Project Management	3.400	1	4.375	2
15. Cost Containment	2.800	6(2)	4.636	1
16. Compliance with Regulatory Requirements	2.188	10	3.750	9

*Calculated based on comparison of median values. When present, value in parentheses indicates number of areas tied with same ranking.

alumni find project management skills very important, probably due to the nature of the positions they assume upon graduation; BS/BSHS alumni do not receive the same high level of preparation. Such a condition, when compared with the results of Tables 23 and 24, seems to require attention.

Conclusions. The totality of results offered in the preceding section could lead to an unlimited number of additional questions regarding appropriateness of the curricula. In fact, many of the questions left out in the discussion will form the basis for additional self-examination by the School. Certain questions will have to be held until sufficient data can be received, through MCEEs, UEQs, etc. The overwhelming evidence, though, points to the following conclusion:

> CRITERION: Determine the appropriateness of the curricula.
> CONCLUSION REGARDING CRITERION: That curricula have been developed which appropriately combine coursework into useful educational training for the School's students, and that the alumni are appropriately trained to enter the career fields of their choosing.

Discussion Regarding the Criterion "Determine the suitability of teaching-learning methods and materials"

The data and results reported and discussed in the previous section, addressing the issue of appropriateness of curricula, provide indirect evidence as to the suitability of teaching-learning methods and materials. The general level of median values for preparation-type questions shows that alumni of the School feel that the methods and materials used for educational purposes yielded moderate to high levels of preparation in the areas considered important by those alumni.

A second set of information which relates to the question of suitability of teaching-learning methods and materials is that contained in the appendix to this report titled "Student Critiques of H.S. Courses" (Appendix 13). Although no trend analysis is presented in this appendix, the general level of most course critique averages shows that sufficient attention is given to methods and materials to rate well with students taking Health Systems courses.

A third means by which "suitability" can be assessed is through examination of the course documentation used in teaching every Health

Systems course (see Exhibit 1, accompanying this report). Because instructors have such guidelines available regarding course coverage, allocation of instructional time, grading bases and other aspects of course presentation, the Health Systems students--and other out-of-department students enrolled in courses--are virtually assured a well organized, effective treatment of course topic(s).

In addition to the other three sources of information and evidence upon which a conclusion on suitability will be based, the MCEEs provide opportunity for MSHS alumni to critique and criticize courses taken in their program of study. Review of the eight MCEEs completed by alumni shows that, in terms of methods and materials, the alumni had no negative or positive comments.

> CRITERION: Determine the suitability of teaching-learning methods and materials.
> CONCLUSION REGARDING CRITERION: That sufficient evidence is available to support the conclusion that methods and materials used in Health Systems courses are quite suitable to the course topics.

Discussion Regarding the Criterion "Determine the success of graduates in creating workable solutions to actual problems of the health care planning agencies and organizations that employ them"

The criterion addressed in this section of the report, hinging on "success of graduates in creating workable solutions," has a working formulation which was stated in the original project proposal (p. 49) as follows:

> "...did the teaching-learning experience of the curricula result in the development of technical competence and environmental compatibility sufficient for the proper performance of planning duties?"

Based on data presented in previous sections of this report, it seems clear that appropriate coverage of technical materials did exist for alumni. However, to completely analyze the question of technical competence, and to investigate the issue of "environmental compatibility," results from the Survey of Alumni and Supervisors of Alumni coming out of Sections F and K should be presented and discussed.

Section F Responses. Section F of the alumni and supervisor questionnaires is titled "General Value of H.S. Educational Program." Several questions from this section of the questionnaires are relevant in obtaining subjective judgements as to technical competence

and environmental compatibility of alumni. These questions, along with the scales along which all alumni coded their individual responses are reproduced here, along with selected results for three groups of respondents: BS/BSHS alumni, MSHS alumni and MSHS alumni who followed the planning option while in their programs of study.*

A1. (Alumni Questionnaire, Section 4, Question 1)
QUESTION: To what extent has the knowledge you acquired in the School facilitated your ability to perform your present job?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very much
RESULTS: (1) BS/BSHS alumni, median value = 3.905
(2) MSHS alumni, median value = 4.150
(3) MSHS alumni (planning option), median value = 4.250

A2. (Alumni Questionnaire, Section 4, Question 3)
QUESTION: How much confidence do you have, as a result of your educational experience, in your ability to recognize problems and structure solutions?
RESPONSE SCALE: None at all 1 2 3 4 5 Very much
RESULTS: (1) BS/BSHS alumni, median value = 4.281
(2) MSHS alumni, median value = 4.500
(3) MSHS alumni (planning option), median value = 4.700

Questions of a similar nature which were included on the supervisor questionnaire, together with results for (a) the supervisors responding who were paired with BS/BSHS alumni and (b) the supervisors responding who were paired with MSHS alumni, follows.

S1. (Supervisor Questionnaire, Section 3, Question 2)
QUESTION: The performance of the employee under consideration indicates that his/her technical competence is:
RESPONSE SCALE: Poor 1 2 3 4 5 Excellent
RESULTS: (1) BS/BSHS alumni supervisors, median value = 4.056
(2) MSHS alumni supervisors, median value = 4.300

S2. (Supervisor Questionnaire, Section 3, Question 3)
QUESTION: The Health Systems graduate exhibits knowledge of methods and techniques required by his/her job.
RESPONSE SCALE: Strongly disagree 1 2 3 4 5 Strongly agree
RESULTS: (1) BS/BSHS alumni supervisors, median value = 4.000
(2) MSHS alumni supervisors, median value = 4.250

S3. (Supervisor Questionnaire, Section 3, Question 5)
QUESTION: To what degree did the graduate's educational preparation satisfy the actual requirements of his/her job?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very much
RESULTS: (1) BS/BSHS alumni supervisors, median value = 3.722
(2) MSHS alumni supervisors, median value = 4.000

*Results are presented in this manner rather than attempting to classify alumni as "planners" or "nonplanners." Although it would be possible to examine results for only those alumni employed by organizations strictly concerned with planning, sample size would not be significant and would understate the impact of planning courses and options on alumni.

Section K Responses. The following questions, taken from alumni and supervisor questionnaires, are relevant to the discussion of "success of graduates."

A3. (Alumni Questionnaire, Section 4, Question 7)
QUESTION: How satisfied is your employer with the quality of your work?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very much
RESULTS: (1) BS/BSHS alumni, median value = 4.636
(2) MSHS alumni, median value = 4.278
(3) MSHS alumni (planning option), median value = 4.500

A4. (Alumni Questionnaire, Section 4, Question 8)
QUESTION: How satisfied are you with the quality of your work?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very much
RESULTS: (1) BS/BSHS alumni, median value = 4.105
(2) MSHS alumni, median value = 4.188
(3) MSHS alumni (planning option), median value = 4.167

S4. (Supervisor Questionnaire, Section 3, Question 7)
QUESTION: Has the employee so far filled the need for which he/she was hired?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very much so
RESULTS: (1) BS/BSHS alumni supervisors, median value = 4.500
(2) MSHS alumni supervisors, median value = 4.500

S5. (Supervisor Questionnaire, Section 3, Question 15)
QUESTION: How satisfied are you with the graduate's quality of output?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very satisfied
RESULTS: (1) BS/BSHS alumni supervisors, median value = 4.375
(2) MSHS alumni supervisors, median value = 4.214

S6. (Supervisor Questionnaire, Section 3, Question 19)
QUESTION: Does the Health Systems graduate under consideration fit well in your organization?
RESPONSE SCALE: Not at all 1 2 3 4 5 Very well
RESULTS: (1) BS/BSHS alumni supervisors, median value = 4.682
(2) MSHS alumni supervisors, median value = 4.500

Analysis of Responses to Questions. In terms of technical competence, it is clear that both alumni and supervisors rate the technical preparation given by the School highly. Median values on questions A1, A2, S1, S2 and S3 support this statement. In addition, more general issues in work assignment, such as quality of output, place the alumni in a highly thought of position (as shown be median values on questions A3, A4 and S5). Finally, the environmental compatibility seems good for alumni, as reflected in the median values on question S6.

Focusing on those MSHS alumni choosing the planning option, there seems to be a general pattern of higher median values for this group of alumni than for other groupings included in this analysis. Thus, it

appears that individuals choosing the planning option at the graduate level are at least as satistied with their technical preparation as other MSHS alumni, and probably are more satisfied than BS/BSHS alumni. This is strong evidence for "success" in sense mentioned in the original project proposal.

> CRITERION: Determine the success of graduates in creating workable solutions to actual problems of the health care planning agencies and organizations that employ them.
> CONCLUSION REGARDING CRITERION: That, according to the definition of success given in the project proposal--including technical competence and environmental compatibility of graduates--and any "common sense" understanding of feasible project impact, the training project has been successful in producing well trained, effective health planners.

Discussion Regarding the Criterion "Determine the extent to which the training project provided a body of knowledge in the methods and techniques of generating and providing health systems manpower"

Through this training project and a related funded project, "Curricula in Health Systems," the School of Health Systems has been able to develop an expertise in preparing health systems analysts and planners for a variety of career opportunities, and at the same time has converted its expertise into practical, effective improvements in this educational environment. Many of the materials developed for courses are being shared with other educational institutions and private individuals through contact with alumni of the School, migration of instructional staff to other sites and direct interaction with present faculty and staff of the School of Health Systems. An extensive collection of course outlines, documentations and materials provides the opportunity for other academic institutions to benefit from the training project's results. In certain cases information is distributed to interested parties as a matter of routine operation.

> CRITERION: Determine the extent to which the training project provided a body of knowledge in the methods and techniques of generating and providing health systems manpower.
> CONCLUSION REGARDING CRITERION: That the functioning School of Health Systems provides a model for education of health systems practitioners, and that knowledge generated as a part of the training project has been/is available to interested parties.

Discussion Regarding the Criterion "Determine the extent to which this training project is instrumental in inducing other academic institutions to establish similar curricula"

That the educational program of the School of Health Systems has had an impact on other academic institutions cannot be denied given the migration of previous faculty and staff of the School. However, the evidence that the School has been instrumental in bringing about the development or modification of another institution's curricula in hopes of the same or a similar educational product is lacking. Thus, while the School is a continual source of materials, concepts and educators for other academic institutions, it does not seem to have been the deciding factor in any other institution's planning process for curricula development.

CRITERION: Determine the extent to which this training project is instrumental in inducing other academic institutions to establish similar curricula.
CONCLUSION REGARDING CRITERION: That no evidence exists to suggest that the School's training project, or any of the educational mission of the School has been instrumental in influencing other institutions to establish similar curricula.

Concluding Comments Regarding Evaluation of the Training Project

Beyond the evaluative materials presented to this point, the plan for final evaluation presented in the Year 03 progress report suggested several additional areas which might be appropriately addressed in the process of gaining an overall perception of project impact. Upon attempting to formulate appropriate data gathering techniques in these areas, however, it became apparent that such investigation would not, as a practical matter, be possible. The primary reason for this conclusion is that, because of the magnitude of effort devoted to the training project and associated activities, no aspect of the Health Systems Research Center or the School of Health Systems was left unaffected by the project's presence. The allocation of activities among faculty and staff altered previously established patterns of work--thus undeniably changing the "course of history" for these individuals and their performance, expectations, desires, goals, etc. Curricula in the areas of analysis and premed were altered to "make room" for additional Health Systems courses in the area of health planning. Facilities of the Health Systems Research Center and the School of Health Systems were improved.

In summary, the training project has had profound impact on every facet of the Health Systems Research Center and the School of Health

Systems. It does appear, however, that the objectives set out for the project have been met and exceeded, and that the planning curricula in the undergraduate and graduate programs of the School are sound, effective training programs for health systems planners.

APPENDICES

Appendix 1
National Advisory Committee

Dr. Richard P. Covert, Director, Division of Management Effectiveness, Center for Hospital Management Engineering, American Hospital Association, Chicago, Illinois

Mr. Robert Davis, Director of Health Planning, American Chiropractic Association, Washington, D.C.

Dr. Charles Flagle, Professor, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Maryland

Dr. Jay Goldman, Chairman, Department of Industrial Engineering, University of Missouri, Columbia, Missouri

Dr. Richard C. Jelinek, President, Medicus Systems Corporation, Chicago, Illinois

Mr. Nathan S. Kaufman, Health Planner, Health Planning & Development Council for Broward County, Fort Lauderdale, Florida (Alumni member)

Arnold I. Kisch, M.D., Director, Health Planning Program, School of Public Health, University of California, Los Angeles, California

Dr. H. Allan Knappenberger, Professor and Chairman, Department of Industrial Engineering & Operations Research, Wayne State University, Detroit, Michigan

Dr. Raphael B. Levine, Executive Director, Health Planning and Development Center, Atlanta, Georgia

Dr. Matthew F. McNulty, Jr., Chancellor, The Medical Center, Georgetown University, Washington, D.C.

Dr. Philip N. Reeves, Professor, Department of Health Care Administration, The George Washington University, Washington, D.C.

Mr. Julius Spivack, Director, Health Services Information Associates, Inc., Rochester, New York

Appendix 2

New Course Documentation

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

Revised
October 1979

Course Documentation

Course Description:

H.S. 6342. Community Health Systems
3-0-3. Prerequisite: H.S. 6340.

Planning for health care needs of a community as a system. Analysis of community structure, decision-making, planner-community interactions and accessibility barriers to services.

Textbook:

Poplin, Dennis E., Communities: A Survey of Theories and Methods of Research, MacMillan Publishing Company, Inc., New York, 1979, 334 pp.

Purposes and Objectives:

The purpose of this course is to give the student a comprehensive, in-depth experience in confronting health planning problems unique to communities and provide her/him with a structured opportunity to use the techniques and methodologies developed in previous health systems courses in addressing real and existing health care needs. The focus of this course is a project which is organized as a student-managed activity with a project manager and a set of teams or task forces. The entire exercise is designed to place the student at the interface between social and technical components of the health care delivery system. The outcome is a written proposal, suitable for submission to a public or private funding agency, addressing a real-world, existing need of a specific community in or near Atlanta. This course provides the experiential component of a group of three Health Systems courses (H.S. 6340, H.S. 6341, H.S. 6342).

Upon completion of this course, the student will be able to:

1. Identify health problems in a community context and develop implementable goals which address those problems.
2. Develop a plan which describes a procedure for implementing the above-mentioned goals.
3. Work as an integrated team member in accomplishing Items 1 and 2.

cope and Limitations:

The material covered in this course is concentrated on the community s a total system.

pproach and Method of Instruction:

Readings from the current literature and from selected texts covering he course topics are placed on reserve. Classroom presentations are a combination of lecture and seminar formats. Students are actively involved through ndividual presentations, field trips and role-playing situations. As appropriate, various audiovisual aids are used. Fifty-five percent of class meeting ime and related work will involve lecture and discussion presentations; independent study will comprise 15 percent of the course; and the group project proposal ill comprisé 30 percent.

aculty and Director Approval _____ Director 3-1-80 Date

H.S. 6342
10/17/79

COURSE OUTLINE

_____ Quarter 19___ Class Meeting Time_____

Instructor_____ Classroom_____

Office_____ Office Hours_____ Telephone_____

Bases for Grading

Homework assignments	20%
Mid-term exam	20%
Group project	30%
Final exam	30%
	100%

Session Numbers	Date	Classroom Topics	Readings
1		Introduction and overview	
2-5		Unit I--Qualitative and quantitative conceptualizations of a "community"	Unit I Readings
6-9		Unit II--Community decision-making and health care problems	Unit II Readings
10-13		Unit III--Accessibility to health services: spatial, social and economic	Unit III Readings
14		QUIZ	
15-17		Unit IV--Urban communities: Impact on health and health delivery	Unit IV Readings
18-20		Unit V--Rural communities: Impact on health and health delivery	Unit V Readings
21-26		Unit VI--Communities and the health planner: input in plan formulation and implementation, entry into the community, special problems in evaluation	Unit VI Readings
27-30		Unit VII--Community-oriented health delivery systems and proposals	Unit VII Readings
		Review and course critique	
		FINAL EXAM	

Readings for H.S. 6342

Unit I. Qualitative and quantitative conceptualizations of a "community."

1. Harmon, G.J., "Start Planning by Defining the Community, Its Future Needs," Hospitals, June 16, 1976, Vol. 50, pp. 105-112.

2. Moore, F.J., "Defining Aggregations of the Poor for Community Health Center Location," Health Services Research, Fall, 1969, pp. 188-197.

3. Regester, D.C., "Community Mental Health--For Whose Community?" American J. of Public Health, September, 1974, Vol. 64, pp. 886-893.

4. Erikson, K., "Loss of Communality at Buffalo Creek," American J. of Psychiatry, March, 1976, Vol. 133, pp. 302-305.

5. Feingold, E., "A Political Scientist's View of the Neighborhood Health Center as a New Social Institution," Neighborhood Health Centers, Hollister, Kramer and Bellin (eds.), D.C. Health, Lexington, Massachusetts: 1974, pp. 91-98.

6. Titchener, James L., M.D. and Frederic T. Kapp, M.D., "Family and Character Change at Buffalo Creek," American J. of Psychiatry, March 1976, pp. 295-299.

Unit II. Community decision-making and health care problems.

1. Milio, N., "Decision-Making in the Health Care System," Resource Manual from the Inner City Work-Study Institute for Health Professions Faculty, Summer, 1975, pp. 160-167.

2. Alinsky, S., "What is the Role of Community Organization in Bargaining with the Establishment for Health Care Services?", Medicine in the Ghetto, J. Norman (ed.), Appleton-Century-Crofts, New York: 1969, pp. 291-299.

3. Elling, R. and Lee, O., "Formal Connections of Community Leadership to the Health System," Milbank Memorial Fund Quarterly, July, 1966, Vol. 44, pp. 294-306.

4. Coleman, A., "Health Care Politics at the Community Level," Politics of Health, Cater and Lee (eds.), New York: Medicom, 1972.

5. Freeman, H. and Lambert, C., "The Influence of Community Groups on Health Matters," Human Organization, October, 1965, Vol. 4, pp. 353-357.

6. Jonas, S., "Theoretical Approach to the Question of Community Control of Health Services Facilities," American J. of Public Health, Vol. 61, May, 1971, pp. 916-921.

7. Perry, L., "Strategies of Black Community Groups," Social Work, May, 1976, pp. 210-214.

8. Kammeyer, K., "Community Homogeneity and Decision-Making," Rural Sociology, Vol. 20, September, 1963, pp. 238-245.

9. MacStranic, R., "Scalability of Community Participation in Health Program Decisions," Health Services Research, Spring, 1975, pp. 76-81.

Unit III. Accessibility to health services: spatial, social, and economic.

1. Moore, W., The Vertical Ghetto, Random House, New York: 1969. Chapter VIII, "Say Ahhh," pp. 134-151.

2. Meyer, L., "Apartment Clinics Keep Senior Citizens in the Community," Hospitals, July 1, 1976, Vol. 50, pp. 63-67.

3. Patterson, R., "Services for the Aged in Community Mental Health Centers," American J. of Psychiatry, March, 1976, Vol. 133, pp. 271-273.

4. Brooks, C.H., "Associations Among Distance, Patient Satisfaction, and Utilization of Two Types of Inner-City Clinics," Medical Care, Vol. 11, September-October, 1973, pp. 373-383.

5. Ostrander, E., "Architectural Barriers and the Voiceless Consumer," Human Ecology Forum, Vol.2, No.2, Fall, 1971.

6. Ostrander, E. and Connell, B., "Designing for Users: A Contemporary Approach."

7. Korsch, B. and Negrete, V., "Doctor-Patient Communication," Scientific American, pp. 66-74.

Unit IV. Urban communities: Impact on health and health delivery.

1. Schorr, L. and English, J., "Background, Context and Significant Issues in Neighborhood Health Center Programs," Neighborhood Health Centers, Hollister, Kramer and Bellin (eds.) D.C. Health, Lexington, Massachusetts, 1974, pp. 45-50.

2. Wood, C., Volante, R., Peeples, S., Jackson, S., and Richter, E., "An Experiment to Reverse Health-Related Problems in Slum Housing Maintenance," American J. of Public Health, Vol. 64, May, 1974, pp. 474-476.

3. Robinson, J., "The Indigent Worker and Health Care in the Urban Setting," Presented at the APHA Conference, November, 1975, Chicago, Illinois.

Unit V. Rural communities: Impact on health and health delivery.

1. Navarro, V., "The Political and Economic Determinants of Health and Health Care in Rural America," Inquiry, Vol. 13, June, 1976, pp. 111-121.

2. Waller, J., "Rural Emergency Care--Problems and Prospects," American J. of Public Health, Vol. 63, July, 1973, pp. 631-634.

3. Richardson, J. and and Schutchfield, "Priorities in Health Care: The Consumer's Viewpoint in an Appalachian Community," American J. of Public Health, Vol. 63, pp. 79-82.

4. Kane, R., "Determination of Health Care Priorities and Expectations Among Rural Consumers," Health Services Research, Summer, 1969, pp. 142-151.

5. Rudd, P., "The United Farm Workers Clinic in Delano, California: A Study of the Rural Poor," Rural Health, July-August, 1975, Vol. 90, pp. 331-339.

6. Geiger, H.J., "Health Center in Mississippi," Hospital Practice, February, 1969, pp. 68-81.

Unit VI. Communities and the health planner: Input in plan formulation and implementation, entry into the community, special problems in evaluation.

1. King, M., "Can the Medical Profession Share Power with the Community?", Medicine in the Ghetto, New York, 1969, pp. 51-60.

2. Haggerty, R., "What Type of Medical Care Can or Should Be Offered to the Urban Poor?", ibid., pp. 251-259.

3. Geiger, H.J., "Community Control--or Community Conflict?", Neighborhood Health Centers, Hollister, Kramer, Bellin (eds.), D.C. Health, Lexington, Massachusetts, 1974, pp. 133-142.

4. Chisholm, S., "Community Health and Community Participation," Bulletin of the New York Academy of Medicine, Vol. 46, December, 1970.

5. Hatch, J., "Discussion of the 'How' of Community Participation in Delivering Health Care," Bulletin of the New York Academy of Medicine, Vol 46, December, 1970, pp. 1084-1091.

6. Hoff, W., "Why Health Programs are not Reaching the Unresponsive in Our Communities," Public Health Reports, Vol. 81, July, 1966, pp. 654-658.

7. Arnstein, S.H., "A Ladder of Citizen Participation," J. of American Institute of Planners, July, 1969, pp. 216-224.

8. Christenson, J., "Public Input for Program Planning and Policy Formation," J. of Community Development Society, Vol. 7, Spring, 1976, pp. 33-39.

9. Hochbaum, G., "Consumer Participation in Health Planning: Toward Conceptual Clarification," American J. of Public Health, Vol. 59, September 1969, pp. 1698-1705.

10. Metsch, J. and Veney, J., "Consumer Participation and Social Accountability," Medical Care, April, 1976, Vol. 14, pp. 283-291.

11. Silverstein, S. and Handlesman, I., "A Retrospective Analysis of the Haight-Ashbury Free Dental Clinic," American J. of Public Health, Vol. 63, January, 1973, pp. 75-78.

12. Burke, E., "Citizen Participation Strategies," J. of American Institute of Planners, September, 1968, pp. 287-294.

13. Partridge, K. and White, P., "Community and Professional Participation in Decision Making at a Health Center," Health Services Reports, Vol. 87, April, 1972, pp. 336-342.

14. Partridge, K. and White, P., "Community and Professional Participation in Decision Making at a Health Center," Health Services Reports, Vol. 88, June-July, 1973, pp. 527-534.

15. Chamberlin, R. and Radebaugh, J., "Delivery of Primary Health Care --Union Style," New England J. of Medicine, Vol. 294, March 18, 1974, pp. 641-645.

Unit VII. Community-oriented health delivery systems and proposals.

1. Chen, P., "Medical Systems in Malaysia," Edistics, Vol. 245, April 1976, pp. 192-199.

2. de Diaz, S., "Beyond Rhetoric--the NENA Health Center After One Year," American J. of Public Health, January, 1973, pp. 64-68.

3. Sidel, V. and Sidel, R., "The Delivery of Medical Care in China," Scientific American, Vol. 230, 1975, pp. 19-27.

4. Sidel, V.W., "The Barefoot Doctors of the People's Republic of China," New England J. of Medicine, Vol. 286, 1972, pp. 1292-1300.

5. Institute for Policy Studies, "Questions and Answers on a National Community Health Service," Community Health Alternatives Project, 1901 Que Street, N.W., Washington, D.C. 20009.

6. New, P. and New, M., "Health Care in the People's Republic of China: The Barefoot Doctor," Inquiry, Supplement to Vol. XII, June, 1975, pp. 103-112.

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

November 1979

Course Documentation

Course Description:

H.S. 8261-2-3-4. Special Topics
1-0-1 through 4-0-4. Prerequisite: Prior arrangements with school.

Special or experimental offerings of topical coverage not included in regular health systems graduate courses.

H.S. 8261:

This one-credit topic number is reserved for the academic aspects of research or outreach activities by some graduate students assigned to community sites or on-campus sponsored projects. Faculty liaison is provided, and each such student registers for one credit hour on a pass-fail basis.

H.S. 8262:

This two-credit topic number is reserved for special purposes to be specified in the future.

H.S. 8263:

This three-credit topic number is reserved for special or experimental offerings on ad hoc subjects as needed. For more information, see the Course Documentation on H.S. 4861-2-3. Course outline form attached.

H.S. 8264:

This four-credit topic number is reserved for subject matter within the areas of methods and standards. Included here are work simplification, process charting, job analysis and evaluation, merit rating and suggestion plans, work measurement, predetermined motion-times, work sampling, standard data, and incentive plans. Graduate students registered under this topic number may be assigned to take H.S. 3115 (3-3-4) as a prerequisite under the MSHS Curriculum. Corequisites: H.S. 6001 and I.Sy.E. 6739. Normally offered Fall and Spring.

Faculty and Director Approval _____ 3-1-80
Director Date

TOPICS COURSE OUTLINE

H.S. _____

Title of Topic Course_____.

Prerequisites_____.

_____ Quarter 19__. Classroom_____.

Instructor_____. Class Meeting Time_____.

Office_____. Office Hours_____. Telephone_____.

Textbook_____

Supp. Texts_____

(Reading list and other instructions may be attached.)

Week No.	Dates	Classroom Topics	Preparation
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

FINAL EXAM

Appendix 3

BSHS Alumni Roster

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

CURRENT EMPLOYMENT STATUS

BSHS Alumni, 1974 to Present

Mr. Clay Jensen (3/74)
Self-employed
Building Construction Contractor
Decatur, Georgia

Mr. Richard Binion, III (6/74)
Management Engineering Consultant
Medicus Systems Corporation
Atlanta, Georgia

Dr. Rex A. Henderson (6/74) (M.D. 6/78)
Resident, Medical Staff
Greenville Hospital
Greenville, Tennessee

Mr. Robert P. Paine (6/74) (MBA, 6/76)
Assistant to Plant Manager
The Kendall Company
Bethune, South Carolina

Lt. Ted L. VanLandingham (6/74)
Administrative Assistant
Naval Regional Medical Center
Portsmouth, Virginia

Mr. Ernest Williamson (12/74)
Management Engineering Consultant
The Medicus Corporation
Loyola University Medical Center
Chicago, Illinois

Mr. R. Patrick McQuade (3/75)
(Current status unknown)

Dr. J. Chandler Berg (6/75) (M.D., 6/79)
Medical Intern
Pensacola Educational Program
Pensacola, Florida

Ms. Adriana Gutierrez (6/75) (MSIM, 12/78)
Health Care Consultant
Touche-Ross
Atlanta, Georgia

Mr. Arthur R. Smith (6/75) (MSIE, 1977)
Associate, Management Engineering
Ohio Hospital Management Services
Cleveland, Ohio

Ms. Sherry B. Gettman (9/75)
Associate Engineer
SIGMA
Northside Hospital
Atlanta, Georgia

Mr. Marty M. McQuade (9/75)
(current status unknown)

Mr. Phillip H. Schwartz (9/75)
Graduate Student (MSHS)
School of Health Systems
Georgia Institute of Technology
Atlanta, Georgia

Mr. Robert C. Steffel (9/75) (MSHS, 9/76)
Senior Consultant
The Medicus Corporation
Mt. Sinai Medical Center
Miami, Florida

Mr. Halsey M. Bagg (12/75) (MSHS, 12/76)
Director, Management Engineering
Memorial Hospital
Johnson City, Tennessee

Mr. Edward M. Brandenburg, Jr. (12/75)
Director, Management Engineering
Lynchburg General-Marshall Lodge Hospitals
Lynchburg, Virginia

Mr. James G. Buck (12/75)
Management Engineering Consultant
MECCS (last known
Camp Hill, Pennsylvania position)

Ms. Janie Macari (12/75) (MSHS, 9/77)
(Current status unknown)

Mr. Kevin M. O'Toole (12/75)
(Current status unknown)

Ms. Donna R. Harrison (3/76)
Data Analyst
Piedmont Health Systems Agency
Greensboro, North Carolina

Ms. Nancy Pattillo Godbold (3/76)
Systems Analyst
Southern Bell Telephone Company
Atlanta, Georgia

Mr. N. M. Adiele (6/76)
Medical Student
School of Medicine
Howard University
Washington, D. C.

Mr. Thomas W. Barnes (6/76)
Management Engineering Consultant
The Medicus Corporation
Akron City Hospital
Akron, Ohio

Ms. Barbara Ciesiel (6/76)
(Current status unknown)

Mr. Craig Dickinson (6/76)
Management Engineer
Massachusetts General Hospital
Boston, Massachusetts

Ms. Katherine Ford Smith (6/76)
Management Engineer
Emory University Hospital
Atlanta, Georgia

Mr. Hal W. Sanders (6/76)
(Current status unknown)

Mr. Jesse G. Smith (6/76) (MSIE, 1978)
Assistant Hospital Administrator
Bluefield Sanitarium
Bluefield, West Virginia

Mr. Charles L. Whitby, Jr. (6/76)
Management Engineer
University Hospital
Augusta, Georgia

Ms. Betsy I. Aquin (9/76)
Health Systems Specialist
Gorgas General Hospital
Ancon (Balboa Heights)
Panama Canal Zone

Mr. Clayton Barnes (9/76)
(current status unknown)

Mr. Morris L. Gavant (9/76)
Medical Student
Emory University Medical School
Atlanta, Georgia

Mr. David M. Lewis (9/76)
Associate Management Engineer
Medical Systems International
Rockville, Maryland

Mr. Harry (Rusty) Brown (12/76) (MSIM 1979)
(current status unknown)

Mr. John Doran (12/76)
Cashier and Salesman
Sanders Paint and Wallcoverings
Tucker, Georgia

Ms. Sylvia Maria Samra (12/76)
Management Engineering Consultant
The Medicus Corporation
San Francisco, California

Mr. Frank E. Coffey (3/77)
Assistant Manager
Terminus International
Atlanta, Georgia

Ms. Janet Hardy (3/77)
Market Analyst (last known position)
Marketing Products
Cincinnati, Ohio

Ms. Anne L. Robison (3/77)
Systems Coordinator, Outpatient Services
Grady Memorial Hospital
Atlanta, Georgia

Ms. Charlene Oxford Zalesky (3/77)
Management Engineer
Kaiser-Permanente of Northern California
Oakland, California

Mr. John A. Horton (6/77) (MSHS, 12/78)
Management Engineer
Management Systems Department
Medical College of Virginia
Richmond, Virginia

Mr. Stephen W. Mahan (6/77)
Management Engineering Consultant
Oklahoma Management Engineering
Shared Services (Okla. Hosp. Assoc.)
Tulsa, Oklahoma

Mr. Gregory S. Matsunaga (6/77)
Management Engineer
Baptist Medical Center
Little Rock, Arkansas

Mr. Howard B. Nussman (6/77) (MSHS, 9/78)
Senior Engineer
Carolinas Hospital and Health Services
Columbia, South Carolina

Ms. Anita L. Pendleton (6/77)
(current status unknown)

Mr. Allan F. Platt (6/77)
Physician Assistant Program
Emory University
Atlanta, Georgia

Mr. John W. Weaver (6/77)
Sales Representative
The Carlson SE Corporation
(Hospital and Building Equipment)
Atlanta, Georgia

Mr. Daniel S. Dlugosz (9/77)
Management Systems Coordinator
Hospital Corporation International
King Faisal Specialist Hospital
Riyadh, Saudi Arabia

Mr. Glenn I. Doi (9/77)
Industrial Engineering Analyst
Kaiser Permanente Medical Care Program
Los Angeles, California

Mr. Dewey A. Greene (9/77) (MHA, 6/79)
Assistant Administrator
Greenville Hospital Center
Greenville, South Carolina

Lt. Laura Scott (9/77)
Weather Officer
U. S. Airforce
(Current location unknown)

Ms. Patricia Scott (9/77)
Associate Engineer
SIGMA
Baptist Hospital
Atlanta, Georgia

Mr. Sidney Abrams (12/77)
Dental Student
Northwestern University
Evanston, Illinois

Mr. Kenneth Amos (12/77)
(current status unknown)

Lt. Ricky C. Cook (12/77)
24th Infantry Division
Ft. Stewart, Georgia

Mr. Henry E. Mee, Jr. (12/77)
Management Consultant
Carolinas Hospital Improvement Program
Charleston, South Carolina

Mr. John R. Currie (3/78)
Management Engineer
Pacific Medical Center
San Francisco, California

Mr. Robert Irven (3/78)
Management Engineer
National Medical Enterprises
Los Angeles, California

Lt. Dennis McShurley (3/78)
U. S. Army
Ft. Sam Houston, Texas

Mr. Mark M. Sandifer (3/78)
Graduate Student (MSIM)
Georgia Institue of Technology
Atlanta, Georgia

Mr. Robert T. Baird (6/78)
Dental Student
Emory University Dental School
Atlanta, Georgia

Mr. David L. Dasinger (6/78)
Consultant
H B O & Company (Med. Infor. Systems)
Atlanta, Georgia

Mr. Theo H. Fountain (6/78)
(current status unknown)

Ms. Catherine A. Hill (6/78)
Management Consultant
Texas Hospital Association
Houston, Texas

Mr. Jonathan P. Fite (6/78)
Management Systems Engineer
Jackson Memorial Hospital
Miami, Florida

Ms. Karen Jones Fite (6/78)
Project Associate
Planning & Management Services Dept.
Mercy Hospital
Miami, Florida

Ms. Debra E. Lewis (6/78)
Public Relations Officer
Ft. McPherson, Georgia

Mr. Stephen A. (Andy) McKay (6/78)
Systems Auditor
Grady Memorial Hospital
Atlanta, Georgia

Ms. Cheryl V. Miller (6/78)
Data Analyst
Health Planning Council, Inc. (HSA)
West Palm Beach, Florida

Mr. William K. Haley (6/78)
Medical Student
Medical College of Georgia
Augusta, Georgia

Mr. Clayton W. Bailey (9/78)
Management Engineer
Plant Maintenance Department
DeKalb General Hospital
Decatur, Georgia

Mr. Kenneth J. Bell (9/78)
Graduate Student
School of Health Systems
Georgia Tech
Atlanta, Georgia

Ms. Carol Anne Couch (9/78)
Consultant and Planner
Western Colorado HSA and Colorado
Department of Local Affairs
Grand Junction, Colorado

Mr. L. Chris Hansen (9/78)
Systems Engineer
Systems Development Department
U. of Alabama Hospitals and Clinics
Birmingham, Alabama

Mr. Timothy G. Healey (9/78)
(current status unknown)

Mr. Donald Ray McCall (9/78)
Management Consultant
Carolinas Hospital and Health Services
Almance County Hospital
Burlington, North Carolina

Ms. Catherine E. Owen (9/78)
Hospital Management Engineer
Health Care Systems
Christian Hospital--Northwest
St. Louis, Missouri

Ms. E. Stephanie Flinn Reed (9/78)
Management Engineer
St. Vincent Hospital and Health
Care Center
Indianapolis, Indiana

Mr. Glen D. Mize (12/78)
Assistant to Manager
Cleveland Processing Company
Doraville, Georgia

Ms. Cynthia E. Thompson (12/78)
Management Engineer
Medical Center of Central Georgia
Macon, Georgia

Ensign Lawrence Leigh Gribble (12/78)
U. S. Navy
SWOS COLCOM Det.
Coronado, California

Mr. Phillip S. Alston, Jr. (3/79)
Installation Representative
H B O & Company (Med. Info. Systems)
Louisville, Kentucky

Mr. Gary W. Alvord (3/79)
Management Engineer
Management Services Department
Medical College of Virginia
Richmond, Virginia

Mr. George L. Jackson, Jr. (3/79)
Management Consultant
Health Care Systems
Sisters of Charity Corporate Offices
Houston, Texas

Mr. William P. Clyatt (3/79)
Management Consultant
Management Sciences Department
Pacific Health Resources
Los Angeles, California

Ms. Marilyn J. Misiak (3/79)
Industrial Engineer
Johns-Mansfield Corporation
Winder, Georgia

Mr. Terrence D. Anderson (6/79)
Methods Director
Barnes Hospital
St. Louis, Missouri

Ms. Renee Smallwood Anderson (6/79)
Claims Processor
Aetna Life Insurance Company
St. Louis, Missouri

Ms. Brenda Sue Clevenger (6/79)
Staff Assistant
Center for Hospital Management Engineering
American Hospital Association
Chicago, Illinois

Mr. Jorge A. Guigou (6/79)
Management Engineer
Grady Memorial Hospital
Atlanta, Georgia

Mr. Steven L. Hipsman (6/79)
Management Engineer
Management Services Department
Medical College of Virginia
Richmond, Virginia

Ms. Arnette M. Odom (6/79)
(current status unknown)

Mr. Michael A. Cunningham (9/79)
(seeking employment)
Self-employed consultant (part time)
Atlanta, Georgia

Ms. Susan D. Davis (9/79)
(current status unknown)

Mr. Daniel C. Groover, Jr. (9/79)
Graduate Student, MSHS
School of Health Systems
Georgia Tech
Atlanta, Georgia

Mr. Rudolph W. Jones, III (9/79)
Management Consultant
Texas Hospital Association
Austin, Texas

Mr. James Alan Kent (9/79)
Graduate Student, MBA
Georgia State University
Atlanta, Georgia

Mr. Robert A. Lummus (9/79)
Graduate Student, MSHS
School of Health Systems
Georgia Tech
Atlanta, Georgia

Ms. Sue Ann Settles (9/79)
(Seeking employment)

Ms. Cheryl L. Wright (9/79)
Managment Consultant
Medical Systems International
Savannah, Georgia

Mr. Clinton B. Zimmerman (9/79)
(Seeking employment)
Physical Therapist (Temporary)
Atlanta, Georgia

Ms. Lila A. Chammoun (12/79)
Management Engineer
Grady Memorial Hospital
Atlanta, Georgia

Mr. Mark S. Fressell (12/79)
(Seeking employment)

Mr. James T. Olive (12/79)
Management Consultant
Oklahoma Management Engineering
Shared Services (Okla. Hosp. Assoc.)
Tulsa, Oklahoma

Mrs. Helen M. Schaeffer (12/79)
Project Engineer
Management Engineering Department
Riverside Hospital
Newport News, Virginia

Ms. Alicia D. Soules (12/79)
Management Consultant
Texas Hospital Association
Austin, Texas

Appendix 4

MSHS Alumni Roster

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

CURRENT EMPLOYMENT STATUS

MSHS Alumni, 1976 to Present

Ms. Susan Baxter (9/76)
Health Planner *
Health Planning Council of
Greater Boston
Boston, Massachusetts

Ms. Dawn Carrico Kabbes (9/76)
Management Engineer
The Medicus Corporation
Houston, Texas

Mr. Donald O. Galimore (9/76)
Director of Management Engineering
Geisinger Medical Center
Danville, Pennsylvania

Mr. Clifford Goodman (9/76)
Staff Consultant
Government Services Division
Medicus Corporation
Bethesda, Maryland

Mr. Robert Hagan (9/76)
Biostatistician
Department of Public Health
Dallas, Texas

Mr. Robert Steffel (9/76)
Senior Management Consultant
The Medicus Corporation
Mt. Sinai Medical Center
Miami, Florida

Mr. James Tindall (9/76)
Director of Management Engineering
Medical Systems International
Stamford Hospital
Stamford, Connecticut

Ms. Karen C. Aborjaily (12/76)
Dental Student
Tufts School of Dentistry
Boston, Massachusetts

Mr. Halsey M. Bagg (12/76)
Director of Management Engineering
Memorial Hospital
Johnson City, Tennessee

Mr. Roger Cochran (12/76)
Executive Director
Southwest Georgia HSA, Inc.
Albany, Georgia

Mr. Philip Y. Drake (12/76)
Management Engineer
The Medicus Corporation
Baptist Hospital
Pensacola, Florida

Mr. Nathan Kaufman (12/76)
Marketing Coordinator
Hospital Corporation of America
Nashville, Tennessee

Mr. Lester Dollar (6/77)
Management Consultant
MEDCO Corp.
Albert Merritt Billings Hospital
Chicago, Illinois 60637

Ms. Brenda Gray Jacklin (9/77)
Hospital Planner
Chicago Hospital Association
Chicago, Illinois

Mr. Buford E. Hancock (9/77)
Assistant Vice President
Southeastern General Hospital
Lumberton, North Carolina

Mr. John E. Kelley (9/77)
Senior Consultant
Health Services Division
Ernst & Whinney
Chicago, Illinois

*Former position; moving to N.Y. 4/80

urrent Employment Status
SHS Alumni
age 2

r. Robert B. Kowalski (9/77)
anagement Engineering Consultant
he Medicus Corporation
hittaker Health Services Program
iyadh, Saudi Arabia

s. Janie Macari (9/77)
Current status unknown)

r. Gilbert J. Pilkington (9/77)
ealth Planner
estern North Carolina HSA
organtown, North Carolina

r. Paul M. Simmons (9/77)
taff Engineer
he Cleveland Clinic
leveland, Ohio

r. Ronald R. Wensel (9/77)
anagement Consultant
ealth Care Division
rthur Young and Company
irmingham, Alabama

r. Michael V. Clark (12/77)
ental Student
niversity of Missouri
Dental School
ansas City, Missouri

s. Janet M. Stewart (12/77)
echnical Consultant
he Medicus Corporation
vanston, Illinois

r. Gene D. Altus (3/78)
ealth Planner
entucky Health Systems Agency West
ouisville, Kentucky

r. David A. Schenk (3/78)
enior Consultant
ealth Care Services Division
rnst & Whinney
harlotte, North Carolina

s. Audrey V. Horne (3/78)
taff Consultant
overnment Services Division
he Medicus Corporation
tlanta, Georgia

Ms. Bonnie E. Brill (6/78)
Management Engineer
The Medicus Corporation
Houston, Texas

Ms. Christine M. Hellerman (6/78)
Industrial Engineering Analyst
Kaiser-Permanente Medical Care Program
Fontana, California

Mr. Kenneth Burns (9/78)
Chief of Planning & Development
Facilities Management Section
Tenn. Dept of Finance Administration
Nashville, Tennessee

Ms. Gloria J. Doehling (9/78)
Management Engineer
Methodist Hospital
St. Louis Park, Minnesota

Mr. Howard B. Nussman (9/78)
Management Engineer
Carolinas Hospital and Health Services
Columbia, South Carolina

Mr. John A. Horton (12/78)
Management Engineer
Management Services Department
Medical College of Virginia
Richmond, Virginia

Mr. J. Mark Carpenter (12/78)
Project Director
HealthWatch, Inc. (HMO)
Nashville, Tennessee

Lt. Daniel A. Wilbur (12/78)
Chief, Outpatient Services
Base Hospital
Camp Le Jeune, North Carolina

Mr. Charles L. Nagle (3/79)
Management Consultant
Health Care Services Division
Ernst & Whinney
Chicago, Illinois

Mr. James H. Piper, Jr. (3/79)
Reimbursement Analyst
Blue Cross Association
Atlanta, Georgia

Mr. Paul L. Shafer (3/79)
Management Consultant
Health Care Services Division
Ernst & Whinney
Boston, Massachusetts

Ms. Barbara Sport Shafer (3/79)
Staff Associate
Group Systems Engineering Program
Massachusetts Hospital Association
Boston, Massachusetts

Ms. Constance S. Thomas (3/79)
Nutrition Consultant
Mead-Johnson Corporation
Greensboro, North Carolina

Ms. Linda S. Adams (6/79)
Management Engineer
Management Services Department
Medical College of Virginia
Richmond, Virginia

Mr. David A. Counts (6/79)
Staff Engineer
Systems Analysis Department
U. of Alabama Hospitals & Clinics
Birmingham, Alabama

Mr. James P. Jeansonne (6/79)
Hospital Management Conslutant
Management Systems Department
Hospital Corporation of America
Nashville, Tennessee

Mr. Leon T. Barton (9/79)
Management Engineer
Carolinas Hospital and Health Services
Moore Memorial Hospital
Pinehurst, North Carolina

Ms. Ruby Blasak (9/79)
(Seeking employment)

Mr. Tommy C. Coalson (9/79)
Management Engineer
Carolinas Hospital and Health Services
Columbia, South Carolina

Mr. David Z. Cowan (9/79)
Management Engineer
Carolinas Hospital and Health Services
Wayne County Memorial Hospital
Goldsboro, North Carolina

Raphael Js. Ma. Hernandez S. (9/79)
Chief Engineer
Division of Maintenance
Department of Public Health
and Social Assistance

Mr. Dennis O. Kitchens (9/79)
(Seeking employment)

Mr. James F. Button (12/79)
Staff Consultant
Charter Medical Corporation
Macon, Georgia

Mr. Gerry M. Hudak (12/79)
Associate Consultant
C D P & Associates
Atlanta, Georgia

Ms. Roseanne N. L. Snow (12/79)

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

March 1, 1980

Appendix 5

AN ADMINISTRATIVE ANALYSIS OF THE H.S. GRADUATE PROGRAM

by

D.A. Counts, D.E. Gambrell, P.A. James, H.E. Smalley

Introduction

This study of the Health Systems graduate program deals with descriptive statistics on program publicity, applications and admissions, attributes of entering students, enrollment data, field training, academic records, and initial placement of alumni. The analyses concentrate upon administrative and procedural aspects without regard for financial or substantive academic considerations.

Purposes

The primary purpose of this study is to provide insights and evidence that may be useful to the H.S. faculty and the H.S. Graduate Committee in attempts to improve the graduate education program. The secondary purpose is to provide information useful to the administrative group responsible for graduate procedures and records and for executing graduate policies and regulations. Tertiary purposes are to provide data for annual reports to the Bureau of Health Manpower, sponsor of the training project supporting the H.S. graduate program, and to establish a data base for future analyses of graduate program characteristics.

Historical Background

Graduate study opportunities in the field of health systems began at Georgia Tech in 1958 when graduate students in the School of Industrial Engineering began to become involved in research projects of the "Hospital Systems Research Group,"

rerunner of the Health Systems Research Center (HSRC), now a part of the School Health Systems. Over a 14-year period these students included health related urses in their programs of study and chose health topics for their master's eses and doctoral dissertations. This arrangement amounted to a minor in alth systems, was later formalized as health systems options available to ster's and doctoral students in various schools, and continues to be available der a special interdepartmental program in which the School of Health Systems operates.

The need for an academic program in which students could major in health stems was recognized at Georgia Tech in 1972, and this need was endorsed by e Bureau of Health Manpower when that federal agency awarded a five-year train-g grant in support of the design, introduction, development, and evaluation of rricula leading to the degrees, Bachelor of Science and Master of Science in alth Systems. Under this training project, the B.S. Curriculum was initiated January 1973 and the MSHS Curriculum in June 1975.

Consistent with the national trend toward developing and using better means planning for health care delivery, and with the aid of another training grant om the Bureau of Health Manpower, options in health systems planning were de-gned and introduced into both the undergraduate and graduate curricula in alth systems. This grant extends the training project to June 1980, and it pports continuing development, improvement, and evaluation of H.S. curricula d courses.

e Present Study

During the Fall Quarter 1978, anticipating certain needs for the forthcoming nal evaluation of the training project, the present study was begun by the School rector, who also serves as "graduate coordinator" for the School and as "program rector" under the aforementioned training project. The analyses were based upon ta compiled by the School's graduate education secretary and upon analyses by RC graduate research assistants. The study covers the period from June 1975 rough December 1979.

Program Publicity

Having been recommended by the Institute Graduate Committee and approved by e Academic Senate in 1974, the H.S. graduate program was authorized by the Regents March 1975. Hence, very little time remained in which to publicize the new pro-am and to recruit the first group of MSHS students for the 1975-76 academic year.

Mailings

Utilizing plans and preparations made earlier, the H.S. staff moved rapidly in announcing the availability of this new graduate study opportunity. During the Spring and Summer 1975, an earlier version of the printed flyer shown as Appendix A was sent to some 1,200 persons on the regular HSRC mailing list and to various other individuals, groups, and institutions. This part of the publicity campaign was strengthened by the longstanding reputation and contacts of HSRC and by publicity materials previously distributed on the undergraduate curriculum in health systems.

Subsequently, other mailing lists were utilized to bring this educational opportunity to the attention of potential students. These included:

- The Health Services Division of the American Institute of Industrial Engineers
- The Hospital Management Systems Society of the American Hospital Association
- The Operations Research Society of America
- The Institute of Management Sciences
- The American Institute of Decision Sciences
- The American Assembly of Collegiate Schools of Business
- Deans of business schools in the Southeast
- Deans of engineering schools in the Southeast
- Heads of collegiate industrial engineering departments
- Biology, chemistry, physics, and math department heads in the Southeast
- Dual degree coordinators at colleges in the Georgia Tech program
- Health professions advisors at various colleges
- Health related divisions of the armed forces
- Undergraduate degree candidates in selected fields at Georgia Tech

Ads and News

In the Summer of 1975, advertisements were run in the Technique, the weekly student newspaper, and in Industrial Engineering, monthly publication of the American Institute of Industrial Engineers. News items appeared in various publications, including the Technique, the newsletters of HMSS and other societies, and Tech Topics, monthly publication of the Georgia Tech National Alumni Association. And, a description of the new master's program appeared in the 1975-76 General Catalog of the Georgia Institute of Technology, published in August 1975.

After the 1975-76 group of MSHS students were recruited and enrolled, this new graduate program was listed in Peterson's Guide, repeat ads were run in the Technique and Industrial Engineering, and additional news items appeared in publications of the Alumni Association, society newsletters, and the Blueprint, the Georgia Tech yearbook.

Annual Publicity Levels

The use of mailings, advertisements, news items, and other publicity media continued into the Fall 1975 and beyond. The approximate figures in Table 1 are indicative of the magnitude of this activity for each of the five calendar years covered by the present report.

Table 1. Publicity Media

	1975	1976	1977	1978	1979	Total
Mailings:						
To individuals	2,975	3,550	4,675	3,360	3,382	17,942
To institutions	115	1,605	125	125	1,390	3,360
	3,090	5,155	4,800	3,485	4,772	21,302
Publications:						
Advertisements	2	7	4	6	2	21
News items	4	4	0	0	0	8
	6	11	4	6	2	29

Responding to Publicity

During the Spring and Summer of 1975, some 183 persons responded to the news that this unique degree program was to be available, and 100 others responded in the Fall of 1975. These contacts took the forms of telephone calls, letters and cards, and personal visits to the campus. In each case the respondent's name, address, and telephone number were recorded in a "prospect log," and an attempt was made to ascertain and record the respondent's source of information about the new master's program.

As will be evident from the data in Table 2, the matter of identifying the respondent's source of information proved to be sketchy and inconclusive, even in the first year, but particularly in the last three years. However, some insight may be gained from Table 2 by treating the "source known" as a sample and taking the percentage figures to be a measure of the relative effectiveness of the several information sources.

Table 2. Information Sources

	1975	1976	1977	1978	1979	Total	
rinted announcements	49	37	6	0	0	92	39%
ews items	18	28	1	0	0	47	19%
dvertisements	15	15	2	4	15	51	21%
a. Tech staff	11	13	4	1	1	30	13%
ther colleges	5	4	5	2	2	18	8%
Source known	98	97	18	7	18	238	100%
Source unknown	185	189	197	207	282	1,060	
nformation requests	283	286	215	214	300	1,298	

nformation Packets

As a part of preliminary plans for the new master's program, an information acket was designed for distribution to those persons responding to the MSHS lyer and other publicity. This packet contained a memorandum, the latest version f which is shown as Appendix B, and the following enclosures:

- Health Systems Questions and Answers--a six-panel flyer describing health systems as a career field.
- Health Systems Curricula and Courses--an 11-page, 6" x 9" brochure describing the instructional program and including graduate course descriptions.
- Health Systems Faculty and Staff--an eight-panel flyer showing pictures of the H.S. faculty and the HSRC staff, and their areas of interest.
- Health Systems Research Center--a six-panel flyer describing HSRC programs of research, community outreach, and continuing education.
- The then most recent announcement of newsworthy program developments.

Applications and Admissions

Persons responding to the information packet were regarded as potential pplicants, along with those making contact for the first time, and appropriate ntries were made in the prospect log. An application packet, sent or given to ach of these persons, contained the following items:

- A memorandum of the type shown as Appendix C
- The official Georgia Tech "Application for Admission" form
- A "Personal Biography" form
- Three recommendation forms
- Other useful enclosures

lso included, when applicable, was the International Student Information Sheet.

As shown in Table 3, a total of 248 applications were received during the period covered by the present report. This total is 19 percent of the 1,298 logged information requests.

Table 3. Application Data

	1975	1976	1977	1978	1979	Total	
Applications received	45	56	51	53	43	248	100%
Incomplete	-15	-17	-17	-21	- 9	-79	-32%
Applications evaluated	30	39	34	32	34	169	68%
Declined	- 8	-10	-12	- 3	- 7	-40	-16%
Applications accepted	22	29	22	29	27	129	52%
No shows	- 6	- 8	- 7	- 2	- 6	-29	-12%
Matriculations	16	21	15	27	21	100	40%

Incomplete applications are normally considered to be those lacking one or more components of the required application materials, but included also in this category are applications being held in abeyance while the otherwise qualified applicant is taking courses elsewhere to satisfy entrance requirements of the MSHS Curriculum. A file is considered to be incomplete if it is not ready for School evaluation by the cutoff date for the intended initial quarter of matriculation. The sum of these for each calendar year is shown in Table 3. It will be noted that about one-third of all applications have remained incomplete.

When an application file is complete, the graduate coordinator conducts an analysis of the applicant's credentials, utilizing the MSHS Degree Requirements shown in Appendix D, and then refers the applicant's file to the H.S. Graduate Committee for its consideration. This committee of the H.S. faculty makes its own analysis; it may request more information and/or an interview with the applicant; and it makes its recommendation to the Director. Acting upon the recommendation of the H.S. Graduate Committee and in recognition of prevailing policies, resource availability, and other factors, the Director makes the admission decision and notifies the applicant.

It will be noted from Table 3 that 169 applications have been evaluated and that 129 (or 76%) of these have been approved. It will also be noted that, during the period covered by the present report, 100 (or 78%) of the 129 admissions have matriculated. Distributions of these 100 matriculations according to their initial academic standing and their selected MSHS option are given in Table 4.

Table 4. Initial Standing and Option

	1975	1976	1977	1978	1979	Total	
Full standing	2	1	2	2	1	8	8%
Conditional	14	18	9	18	11	70	70%
Special	0	2	4	7	9	22	22%
Matriculations	16	21	15	27	21	100	100%
Analysis option	5	10	5	7	7	34	44%
Planning option	11	9	6	13	5	44	56%
	16	19	11	20	12	78	100%
No option (Special Standing)*	0	2	4	7	9	22	
Matriculations	16	21	15	27	21	100	

*It should be noted that, unless they withdraw, these students select an option when they satisfy entrance requirements and their standing is changed to conditional.

Profile of Entering Students

In the tables of this section the data describe certain characteristics of the 100 graduate students who have entered the MSHS program since its initiation.

Table 5. Legal Residence

	1975	1976	1977	1978	1979	Total	
State of Georgia	8	12	10	18	15	63	63%
Other states*	7	8	4	5	5	29	29%
International**	1	1	1	4	1	8	8%
	16	21	15	27	21	100	100%

*Twenty-nine persons from 18 states: Alabama (2), Connecticut, Florida (2), Illinois, Indiana, Kentucky (2), Louisiana, Maryland, Massachusetts, Michigan, Minnesota, New Jersey, New York (6), Ohio, Pennsylvania, Tennessee (4), Vermont, Virginia.

**Eight persons from eight countries: Cameroon, Dominican Republic, India, Iran, Jamaica, Mexico, Nigeria, West Germany.

Table 6. Previous Degree, Major, and College

Degree:	1975	1976	1977	1978	1979	Total	
Bachelor's	12	18	15	26	20	91	91%
Master's	4	2	0	1	1	8	8%
Doctor's	0	1	0	0	0	1	1%
	16	21	15	27	21	100	100%

Table 6 (continued)

Major:	1975	1976	1977	1978	1979	Total	
Physical Sciences	2	3	8	10	5	28	28%
Business Administration	5	5	1	4	0	15	15%
Social Sciences	4	4	2	2	3	15	15%
Health Professions	1	2	2	3	5	13	13%
Engineering	2	3	0	4	2	11	11%
Health Systems	1	2	2	2	2	9	9%
Other fields	1	2	0	2	4	9	9%
	16	21	15	27	21	100	100%
College:							
Georgia Tech	5	8	4	6	3	26	26%
Emory University	2	2	0	2	2	8	8%
University of Georgia	0	2	1	3	2	8	8%
Cornell University	2	1	0	0	0	3	3%
Other colleges (2 each)	2	2	4	2	2	12	12%
Other colleges (1 each) (Total=50 colleges)*	5	6	6	14	12	43	43%
	16	21	15	27	21	100	100%

*These are listed in Appendix E.

Table 7. Age, Sex, and Ethnic Group

Age at entry:	1975	1976	1977	1978	1979	Total	
38-40	0	0	0	2	1	3	3%
35-37	0	1	0	0	2	3	3%
32-34	2	1	1	1	1	6	6%
29-31	0	0	0	3	3	6	6%
26-28	2	3	4	5	5	19	19%
23-25	8	10	6	8	5	37	37%
20-22	4	6	4	8	4	26	26%
(Range: 20-38) (Average = 25.5 yrs.)	16	21	15	27	21	100	100%
Sex:							
Male	11	14	10	20	9	64	64%
Female	5	7	5	7	12	36	36%
	16	21	15	27	21	100	100%
Ethnic Group:							
Majority	15	19	11	22	18	85	85%
Minority*	1	2	4	5	3	15	15%
	16	21	15	27	21	100	100%

*Includes seven international students who are Black, Asian, or Spanish-surnamed.

Table 8. Source of Support

Institutional:	1975	1976	1977	1978	1979	Total	
Community Outreach Fellowships	2	8	6	5	6	27	47%
HSRC Assistantships	8	3	1	4	6	22	39%
Scholarships	0	0	1	5	2	8	14%
	10	11	8	14	14	57	100%
Non-institutional*	6	10	7	13	7	43	
	16	21	15	27	21	100	

*This includes self and parent support, part-time outside employment, GI Bill, tuition waivers, and other sources.

Table 9. Tuition Waivers

Regents' 1953 Scholastic Waiver:	Number of Quarters					
	1975	1976	1977	1978	1979	Total
Aborjaily	1	4	--	--	--	5
Altus	--	1	2	--	--	3
Clark	--	--	3	--	--	3
Gray	--	3	1	--	--	4
Hagan	--	3	--	--	--	3
Hernandez	--	--	--	--	2	2
Kallenbach	--	--	--	--	1	1
Kaufman	1	1	--	--	--	2
Kowalski	--	1	3	--	--	4
Lukawsky	--	--	--	--	1	1
Shafer	--	--	2	2	1	5
Stewart	--	1	2	--	--	3
	2	14	13	2	5	36
SREB Academic Common Market:						
Burns	--	--	3	3	--	6
Total Man-quarters	2	14	16	5	5	42

Quarter-by-Quarter Enrollment

The reporting period of the present study is from June 1975 through December 1979, which consists of 18 academic quarters. A quarter-by-quarter accounting for enrollment is shown in Table 10. This table should be read from left to right, one line at a time, to discern effects upon "running totals," and it should be read from top to bottom, one column at a time, to ascertain trends, totals, averages, etc., for each event that affects enrollment.

Table 10. Enrollment Data

Quarter/Year	Carry-overs	Readmits	New Matrics	Enroll-ment	With-draws	Degrees	In Progress
Summer 1975			2	2	-1	0	1
Fall	1	0	14	15	-3	0	12
Winter 1976	12	0	1	13	0	0	13
Spring	13	0	2	15	0	0	15
Summer	15	0	4	19	0	-7	12
Fall	12	0	14	26	-2	-5	19
Winter 1977	19	0	3	22	-2	0	20
Spring	20	0	1	21	-1	-1	19
Summer	19	0	4	23	-1	-7	15
Fall	15	0	7	22	-2	-3	17
Winter 1978	17	2	7	26	-4	-3	19
Spring	19	0	2	21	-2	-2	17
Summer	17	0	8	25	-3	-3	19
Fall	19	0	10	29	-1	-3	25
Winter 1979	25	0	4	29	-2	-5	22
Spring	22	0	3	25	-2	-3	20
Summer	20	0	3	23	-1	-6	16
Fall	16	1	11	28	-5	-3	20

The "Enrollment" in a given quarter is the sum of carryovers from the previous quarter, any readmissions this quarter, and the new matriculations this quarter. The enrollment column of Table 10 is significant because it represents the number of H.S. graduate majors served and the number of MSHS programs administered.

"Withdrawals" is a category covering several different situations, each of which results in attrition of enrollment by the end of the quarter. For a variety of reasons a student may drop all his or her courses during the quarter and, hence, drop out of school; or he or she may complete the quarter but choose not to continue his or her enrollment next quarter. In either case the student may or may not have plans to return and to seek readmission for a subsequent quarter, and such plans may or may not materialize. This category also includes students who transfer to another Georgia Tech school on a change-of-major basis, as well as those dropped by the School of Health Systems.

The last column of Table 10 is obtained by subtracting the withdrawals and the students completing degree requirements from the number in the enrollment column. This "in-progress" figure then becomes the "carryover" figure for the next quarter.

Certain characteristics of the aforementioned enrollment data are summarized in Table 11.

Table 11. Enrollment Summaries

New matriculations:	1975	1976	1977	1978	1979	Total	
Winter	--	1	3	7	4	15	15%
Spring	--	2	1	2	3	8	8%
Summer	2	4	4	8	3	21	21%
Fall	14	14	7	10	11	56	56%
Totals	16	21	15	27	21	100	100%

Enrollments:						Average
Winter	--	13	22	26	29	22.5
Spring	--	15	21	21	25	20.5
Summer	(2)*	19	23	25	23	22.5
Fall	15	26	22	29	28	24.0
Averages	15.0	18.3	22.0	25.3	26.3	22.5**

*Not included in calculating averages.
**Average of 17 individual quarters.

Degrees awarded:						Total	
Winter	--	0	0	3	5	8	16%
Spring	--	0	1	2	3	6	12%
Summer	0	7	7	3	6	23	45%
Fall	0	5	3	3	3	14	27%
Totals	0	12	11	11	17	51	100%

Progress Toward Program Completions

In the previous sections of this report, data were classified by the calendar year relevant to each data point, without regard for the duration of programs of study, program interruptions, etc. However, in the present section, the 100 matriculated students are placed into five groups, each of which corresponds to the calendar year of initial matriculation, and each student in a given group remains in his or her group, regardless of the point in calendar time when the referenced event occurs.

As can be seen in Table 12, a total of 100 students have matriculated since June 1975, 31 of these have withdrawn, two have been readmitted, and 71 have either graduated or are now in progress.

Table 12. Group Sizes

	First Group	Second Group	Third Group	Fourth Group	Fifth Group	Total of Five Groups	
Matriculations	16	21	15	27	21	100	100%
Withdrawals	- 5	- 5	- 6	- 9	- 6	-31	- 29%
Readmissions	+ 1	0	+ 1	0	0	+ 2	
Group sizes*	12	16	10	18	15	71	71%

*Sustained enrollment

During the second or third quarter after the student has satisfied entrance and prerequisite requirements of the MSHS Curriculum, HS 6570, Field Training Proposal, is scheduled. In this course each student attempts to match his or her interests with those of individual faculty members, and a faculty member is assigned to serve as project advisor for each student. Table 13 shows the number of students in each group who have been assigned to each H.S. faculty member.

Table 13. Project Advisors

	First Group	Second Group	Third Group	Fourth Group	Fifth Group	Total of Five Groups	
Bowlin	0	0	3	5	0	8	15%
Fagin	3	3	0	0	0	6	11%
Kay	3	6	1	4	0	14	26%
LaPatra	0	1	2	2	0	5	9%
Myrick	5	6	3	4	0	18	33%
Thomason	0	0	1	1	0	2	4%
Wallace	1	0	0	0	0	1	2%
	12	16	10	16	0	54	100%
(To be assigned)	0	0	0	2	15	17	
	12	16	10	18	15	71	

The H.S. 6570 course is also devoted to the planning of the student's field training project, and this planning culminates in a project proposal, including, among other features, the identification of a field training site (or data source). Table 14 summarizes the types of sites that have been arranged and approved for 54 of the 71 graduated or currently active students. The remaining 17 students have not yet reached the point in their programs when a site is to be identified.

Table 14. Field Training Sites

	First Group	Second Group	Third Group	Fourth Group	Fifth Group	Total of Five Groups	
ealth care institutions	2	10	3	7	0	22	41%
ealth service agencies	3	4	6	6	0	19	35%
onhospital components*	6	0	0	0	0	6	11%
SRC data source	1	2	1	3	0	7	13%
	12	16	10	16	0	54	100%
(To be arranged)	0	0	0	2	15	17	
	12	16	10	18	15	71	

*This category includes doctor's offices, neighborhood clinics, diagnostic and rehabilitation centers, and other nonhospital components of the health care system.

As of the end of the Fall Quarter of 1979, a total of 51 students have completed degree requirements, and these include all members of the first, second and third groups. The current status of enrollment is shown in Table 15, and a master list of the 51 MSHS alumni is given in Appendix F.

Table 15. Current Status of Enrollment

	First Group	Second Group	Third Group	Fourth Group	Fifth Group	Total of Five Groups	
roup sizes	12	16	10	18	15	71	100%
n progress (Dec. 1979)	0	0	0	- 5	-15	-20	-28%
Completions	12	16	10	13	0	51	72%

Analyses were conducted of the academic data on the 51 students who have completed degree requirements, and the results are given in Table 16. Only four groups are shown because none of the fifth group (1979 matriculations) has graduated. This is followed by Table 17 which shows a summary of the types of organizations that employed the 51 MSHS alumni.

Table 16. Academic Records

	First Group	Second Group	Third Group	Fourth Group	Total of Four Groups
Program completions	12	16	10	13	51
Quarter-hours earned:					
High	73	72	81	83	83
Average	55.8	57.1	65.7	64.4	60.34*
Low	50	50	56	50	50
Quarters in program:					
High	7	7	8	8	8
Average	4.7	5.1	6.1	5.3	5.25*
Low	4	4	4	4	4
Q-hours per quarter:					
High	13.5	13.5	12.8	16.5	16.5
Average	12.0	11.1	10.9	12.3	11.58*
Low	9.5	8.7	9.3	10.4	8.7
Grade point average:					
High	3.7	4.0	3.8	3.5	4.0
Average	3.4	3.4	3.2	3.3	3.34*
Low	2.8	2.9	2.8	3.0	2.8

*Weighted by number of students in each group.

Table 17. Initial Placement of Alumni

	First Group	Second Group	Third Group	Fourth Group	Total of Four Groups	
Consulting firms	5	7	6	5	23	45%
Hospitals	2	4	0	2	8	16%
Planning agencies	4	2	0	0	6	12%
Universities	1	2	1	0	4	8%
Other	0	1	3	2	6	12%
Sub-total	12	16	10	9	47	93%
Pending (Dec. 1979)	0	0	0	4	4	7%
	12	16	10	13	51	100%

Concluding Remarks

In summary, 1,298 information requests were received and logged in, and 248 these resulted in applications for admission. A total of 100 persons matricu-ted, of whom 71 had sustained enrollment, and 51 of the latter had completed eir programs of study by December 1979, leaving 20 graduate students in progress. ble 18 is a matrix showing the percentages associated with the aforementioned velopments in the MSHS program from June 1975 through December 1979.

Table 18. Percentage Matrix of Program Developments

	Number	Info.	Appl.	Matrics.	Sus. Enr.
formation Requests	1,298	100%			
plications received	248	19%	100%		
triculations	100	8%	40%	100%	
stained enrollment	71	5%	29%	71%	100%
ogram completions	51	4%	21%	51%	72%

The typical alumnus of the H.S. graduate program learned about this unique ucational opportunity by seeing one of the printed MSHS flyers. Such a hypo-etical person is a 26-year-old white male from Georgia who entered the program conditional standing in the Fall Quarter with a bachelor's degree in a physical ience from Georgia Tech. He selected the planning option, completed 10 hours prerequisites plus a 50-quarter-hour graduate program of study over five acad-ic quarters, and earned a 3.3 grade-point average. Dr. Myrick directed his ster's project in a local hospital, and, upon receiving the MSHS degree, he s employed by a consulting firm. He is expected to live happily ever after.

GEORGIA INSTITUTE OF TECHNOLOGY

announces

GRADUATE STUDY OPPORTUNITIES

leading to the degree

MASTER OF SCIENCE IN HEALTH SYSTEMS (MSHS)

for professional careers as

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Analysts and Planners — Health systems analysts normally are employed or are retained as consultants by individual hospitals or other health care institutions, whereas health systems planners typically serve in government agencies, consulting firms, or other organizations concerned with multi-institutional and community-wide systems of health care delivery. Graduates of the MSHS program are prepared to practice in both of these subspecialties.

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THE MSHS CURRICULUM

- **GENERAL PURPOSES** — To provide an academically sound, socially relevant, educational experience which will prepare graduate students for professional careers in the field of health systems analysis and planning, with upward mobility potential. To provide a means for changing career directions, for adding new skills, or for refreshing and updating technical abilities.

- **CURRICULUM FEATURES** — Lectures . . . Seminars . . . Case Studies . . . Field Training . . . Specialty-Area Electives . . . Thesis or Project Option . . . Placement Assistance . . . Alumni Communications.

- **ADMISSION REQUIREMENTS** — Bachelor's degree in a scientific field, a good academic record, a quantitative and analytical orientation, a year of calculus, and an interest in the health field.

- **TIME REQUIRED** — Normally four to six academic quarters depending upon the nature of previous experience and coursework preparation. If prerequisite courses in math, statistics, or operations research are anticipated, the applicant should plan to begin the program of study in the Spring or Summer, otherwise in the Fall Quarter.

- **FEES AND TUITION** — $250.50 per quarter for Georgia residents, $680.50 per quarter for others; non-resident tuition may be waived for holders of certain scholarships and assistantships, and for residents of Arkansas, Louisiana, Tennessee, and West Virginia, under the SREB Academic Common Market. There is no application fee.

FOR MORE INFORMATION. Call (404) 894-4550 or write to Dr. Harold E. Smalley,
School of Health Systems, Georgia Tech, Atlanta 30332

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

Pkt. #1, 5/79

M E M O R A N D U M

TO: Prospective Graduate Students

FROM: Director

SUBJECT: The MSHS Curriculum

We appreciate your interest in the School of Health Systems and are pleased to provide the enclosed materials on health systems at Georgia Tech, including information on graduate study opportunities leading to the degree, Master of Science in Health Systems (MSHS).

Health Systems is that field of study and practice aimed toward improving the delivery of health care services through the application of systems science and management engineering. Emphasis is upon systematic planning, engineering design, and scientific management in respect to health care facilities, manpower, and methods. Practitioners in this field may specialize in either health systems analysis or health systems planning, but they are competent to practice in both subspecialties.

Both analysts and planners perform technical staff functions concerned with the analysis, design, and improvement of management systems, and both apply systems science techniques to improve the effectiveness and productivity of health service delivery. Health systems analysts normally are employed or are retained as consultants by individual hospitals or other health care institutions, whereas health systems planners typically serve in government agencies, consulting firms, or other organizations concerned with multi-institutional and community-wide systems of health care delivery.

The demand for trained manpower in this field exceeds the current supply, and this favorable job market is expected to continue for years to come. Hence, employment opportunities for men and women with the MSHS degree are excellent, and a career in health systems can truly be regarded as a career with a future.

The MSHS curriculum includes a series of lecture, seminar, case study, and project oriented courses, with specialty-area electives, field training, career placement assistance, and alumni communications. The graduate student may elect either the analysis option or the planning option, each requiring four to six academic quarters depending upon the nature of previous coursework preparation and experience.

Admission requirements include a bachelor's degree from a recognized institution, with a major in a scientific field (such as engineering, mathematics, statistics, computer science, physical science, social science, or management science), a good academic record, a quantitative and analytical orientation, a year of calculus, and an interest in the health field. Even though some preparation in finite math,

Memo to Prospective Graduate Students

statistics, operations research, computer programming, economics, and psychology is normally expected, deficiencies in these subjects may be removed by including appropriate courses in the graduate program at Georgia Tech. Accordingly, programs of study vary from the minimal 50 quarter-hours to as many as 70 quarter-hours.

If prerequisite courses in math, statistics, or operations research are anticipated, the applicant should plan to begin the program of study in the Spring or Summer; otherwise in the Fall Quarter. However, applications for full-time or part-time study will be considered for initial enrollment in any of the four academic quarters which begin in September, January, March, and June.

At present, fees and tuition total $250.50 per quarter for legal residents of Georgia and $680.50 for others. However, non-resident tuition may be waived for holders of certain scholarships and assistantships, and for residents of Arkansas, Louisiana, Tennessee, and West Virginia, under the SREB Academic Common Market. There is no application fee.

If you decide to apply for admission to the MSHS curriculum, send me your name, address, and telephone number. A packet of application materials will then be sent to you. We appreciate your interest and look forward to hearing from you at an early date.

Sincerely,

Harold E. Smalley, Ph.D.
Regents' Professor and Director

Enclosures: MSHS Announcement
HS Questions and Answers
HS Curricula and Courses
HS Careers flyer
HS Research Center flyer

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

Pkt. #2, 11/79

M E M O R A N D U M

TO: MSHS Applicants

FROM: Director

SUBJECT: MSHS Application Materials

We appreciate your interest in the MSHS curriculum and are pleased to provide the enclosed materials for your use in applying for admission. Please read the directions for making application and see that all required application materials are sent to the specific Georgia Tech officials cited in the directions.

The application for admission must be supported by official transcripts from all colleges attended, a personal biography, and three letters of recommendation. There is no application fee. The submission of GRE, ATGSB, or other test scores is not required by the School of Health Systems, but such scores are often helpful to the admissions committee and should be submitted if available. International applicants must supply TOEFL scores.

If your major field of study in undergraduate school is not shown on the application form, show that field on your personal biography form. Also, indicate on the personal biography form your tentative choice of options under the MSHS curriculum--health systems analysis, or health systems planning.

Applications from U.S. citizens must be received by the Registrar by August 1st for the Fall Quarter, December 1st for the Winter Quarter, March 1st for the Spring Quarter, and June 1st for the Summer Quarter. International applicants should file at least six months in advance.

In addition to the aforementioned application materials, a former Georgia Tech graduate student must submit a readmission form, and a currently enrolled Georgia Tech graduate student must submit a change of major form. Applications are evaluated in the order received, and individual admission decisions are communicated promptly.

Various forms of financial aid are available through the School of Health Systems, as described on the enclosure entitled, "Scholarships, Fellowships and Assistantships at Georgia Tech." Additional information and application forms are available upon request.

(Over)

You should first arrange to have your transcripts sent to the Georgia Tech Registrar and recommendations sent to me; then, while this time-consuming process is underway, you can prepare and mail the application form to the Registrar and personal biography form to me. You may wish to reread the information materials we sent to you previously. We look forward to hearing from you soon.

Sincerely,

Harold E. Smalley, Ph.D.
Regents' Professor and Director

Enclosures: Application for Admission
Personal Biography
Letter of Recommendation (3)
Scholarships, Fellowships and Assistantships
at Georgia Tech
International Student Information sheet (if applicable)

MSHS DEGREE REQUIREMENTS
FOR 1979 PROGRAMS

Revised
6/15/79

Entrance Requirements

Subject matter to be satisfied as prior preparation or as a non-degree candidate; *special* standing:

Finite Math	(Math 1711 = 5 hours)
Differential Calculus	(Math 1712 = 5 hours)
Integral Calculus	(Math 1713 = 5 hours)

Prerequisites

Subject matter to be satisfied as prior preparation or as requirements beyond the minimal 50 quarter-hour program of study; *conditional* standing:

FORTRAN Computer Programming	(ICS 1700 = 3 hours)
Calculus-based Probability & Statistics	(ISyE 6739 = 4 hours)
Operations Research	(ISyE 6734 = 5 hours)
Methods, Standards,& Job Analysis	(HS 8264 (3115) = 4 hours)

Requisites

Subject matter to be satisfied as prior preparation or as mandatory electives in the graduate program of study; *full* standing:

Microeconomics	(Econ 6000 for both options)
Engineering Economy	(ISyE 4725 for Analysis Option)
Sociology	(Soc 1376 for Planning Option)

Core Requirements		Quarter-Hours
HS 6001	Introduction to Health Systems	3
HS 6231	Project Management	3
HS 6331	Health Systems Analysis I (management engineering)	3
HS 6332	Health Systems Analysis II (economics & finance)	3
HS 6333	Health Systems Analysis III (quantitative methods)	3
HS 6340	Health Planning Techniques	3
HS 6341	Health Systems Planning	3
HS 6351	Research and Evaluation Methods	3
HS 6570	Field Training Proposal	1
HS 6571-2-3	Graduate Field Training	6
HS 6765	Case Studies	3
HS 8092 or 3	Graduate Seminar	1
	Subtotal	.35

Option Requirements (see reverse side) 15

ANALYSIS OPTION: Approved selections from HS 8161 (3116); HS 8162 (3118); ISyE 4103; ISyE 6301, 6400, or 6407; requisite or elective.

PLANNING OPTION: Approved selections from CP 6000, Mat 4290, Pol 6255, or Soc 3340; Econ 6005, ISyE 4725, or Mgt 6000; HS 6342 (4021); ISyE 4044 or 6806; requisite or elective.

Program Requirements (minimal) 50

OPTION COURSES

Revised 6/15/79

ANALYSIS OPTION

			Qtr.-Hrs.
Management Engineering:			
HS 8161 (3116)	Staffing and Scheduling	3-0-3	3
HS 8162 (3118)	Facility Planning	2-3-3	3
ISyE 4103	Information Systems	3-0-3	3
Applied Statistics:			
ISyE 6301	Quality Control Systems	3-0-3	
ISyE 6400	Design of Experiments	3-0-3	3
ISyE 6407	Theory of Sampling	3-0-3	
Requisite or Elective			3
		Sub-total	15

PLANNING OPTION

Community Planning:			
CP 6000	Urban Community Planning	3-0-3	
Mgt 4290	Public Administration	3-0-3	3
Pol 6255	Govt. Aspects of Planning	3-0-3	
Soc 3340	Urban Ecology & Demography	3-0-3	
HS 6342 (4021)	Community Health Systems	3-0-3	3
Applied Economics:			
Econ 6005	Cost Benefit Analysis	3-0-3	
ISyE 4725	Engineering Economy	3-0-3	3
Mgt 6000	Mgt Accounting & Control	3-0-3	
Computer Simulation:			
ISyE 4044	Simulation	2-3-3	3
ISyE 6806	Feedback Dynamics	3-0-3	
Requisite or Elective			3
		Sub-total	15

(see reverse side)

PREVIOUS COLLEGES

The 100 matriculated students received their highest previous degrees from 50 different colleges, as listed below:

Auburn University, Auburn, Alabama
Augusta College, Augusta, Georgia
Berea College, Berea, Kentucky
Berlin, Technical University of, Berlin, West Germany
Bridgeport, University of, Bridgeport, Connecticut
Brown University, Providence, Rhode Island
Buffalo, University of, Buffalo, New York
Clemson University, Clemson, South Carolina
Colorado, University of, Boulder, Colorado
Cornell University, Ithaca, New York
Emory University, Atlanta, Georgia
Gannon College, Erie, Pennsylvania
Gardner-Webb College, Boiling Springs, North Carolina
General Motors Institute, Pontiac, Michigan
Georgia College, Milledgeville, Georgia
Georgia Institute of Technology, Atlanta, Georgia
Georgia, Medical College of, Augusta, Georgia
Georgia State University, Atlanta, Georgia
Georgia, University of, Athens, Georgia
Georgetown University, Washington, D.C.
Hampton Institute, Hampton, Virginia
Ibero Americana University, Mexico City, Mexico
Illinois, University of, Urbana, Illinois
Kentucky, University of, Lexington, Kentucky
Louisiana State University, Baton Rouge, Louisiana
Louisville, University of, Louisville, Kentucky
Manhattan College, New York, New York
Mankato State University, Mankato, Minnesota
Memphis State University, Memphis, Tennessee
Michigan, University of, Ann Arbor, Michigan
Middle Tennessee State College, Murfreesboro, Tennessee
Northwestern State College of Louisiana, Natchitoches, Louisiana
Purdue University, LaFayette, Indiana
Rensselaer Polytechnic Institute, Troy, New York
San Francisco State University, San Francisco, California
Shorter College, Rome, Georgia
South Carolina, University of, Columbia, South Carolina
South Florida, University of, Tampa, Florida
Southern Technical Institute, Marietta, Georgia
Spelman College, Atlanta, Georgia
St. Teresa, College of, Winona, Minnesota
Syracuse University, Syracuse, New York

Talladega College, Talladega, Alabama
Tennessee, University of, Chattanooga, Tennessee
Texas, University of, Austin, Texas
Tufts University, Medford, Massachusetts
Vermont, University of, Burlington, Vermont
Washington University, St. Louis, Missouri
Wellesley College, Wellesley, Massachusetts
West Georgia College, Carrollton, Georgia

Nine of the 100 matriculated students held advanced degrees before entering the MSHS program, and three other students held two undergraduate degrees each. Colleges that awarded these degrees but not listed above are as follows:

Armstrong State College, Savannah, Georgia
Barnard College, New York, New York
Butler University, Indianapolis, Indiana
Calcutta, University of, Calcutta, India
City College of New York, New York, New York
Hartwick College, Oneonta, New York
Southern Illinois University, Carbondale, Illinois

Updated 12/07/80

MSHS Field Training Record
(By Quarter of Graduation and Alphabetically
within that Quarter)

Baxter, Susan L., "Determination of Cost Savings with the Food Management System," Grady Memorial Hospital (Medicus project), 41 pp., Howard E. Fagin, Project Advisor, RR #LP-B4, 2612, MSHS 9/76.

Carrico, Dawn M., "Patient Flow Study," Georgia Diagnostic and Classification Center, Jackson, Ga., 59 pp., Bonnie J. Kay, Project Advisor, RR #LP-C2, 2613, MSHS 9/76.

Galimore, Don O., "Simulation Modeling in Financial Feasibility Studies for a Health Maintenance Organization," Decatur Church of Christ Senior Housing, 33 pp., Justin A. Myrick, Project Advisor, RR #LP-G1, 2614, MSHS 9/76.

Goodman, Clifford S., "Hematocrit as an Index of Iron Deficiency in a Supplementary Food Program," Kirkwood Community Health Center, 61 pp., Bonnie J. Kay, Project Advisor, RR #LP-G1, 2646, MSHS 9/76.

Hagan, Robert J., "Consumer Representation on Health Systems Agencies' Board of Directors," Public Health Service, DHEW, Region IV, 37 pp., Howard E. Fagin, Project Advisor, RR #LP-H7, 2610, MSHS 1/76.

Steffel, Robert C., "Planning the Development of Health Services Using Systems Simulation," Health Systems Research Center, 44 pp., Donald R. Wallace, Project Advisor, RR #LP-S8, 2611, MSHS 9/76.

Tindall, James R., "Development of a Simulation Model for a Proposed Health Maintenance Organization," Decatur Church of Christ Senior Housing, 66 pp., Justin A. Myrick, Project Advisor, RR #LP-T1, 2609, MSHS 9/76.

Aborjaily, Karen C., "Physician Productivity Assessment," Nine physicians' offices, 44 pp., Howard E. Fagin, Project Advisor, RR #LP-A2, 2654, MSHS 12/76.

Bagg, Halsey M., "A Quality Control Measure for Nursing Service," Crawford W. Long Memorial Hospital, 26 pp., Bonnie J. Kay, Project Advisor, RR #LP-B5, 2656, MSHS 12/76.

Cochran, Roger A., "Emergency Aid Seeking Behavior in the Metropolitan Atlanta Area," Metropolitan Emergency Medical Services, 35 pp., Justin A. Myrick, Project Advisor, RR #LP-C2, 2655, MSHS 12/76.

Drake, Philip Y., "Radiology Department Analysis," Henrietta Egleston Hospital, 19 pp., Justin A. Myrick, Project Advisor, RR #LP-D1, 2661, MSHS 12/76.

Kaufman, Nathan S., "Mental Health Needs Assessment," South DeKalb Mental Health Center, Decatur, Ga., 69 pp., Justin A. Myrick, Project Advisor, RR #LP-K1, 2657 MSHS 12/76.

Dollar, Edward L., "Materials Management Proposal," Fannin Regional Hospital (GHSS project), 30 pp., Bonnie J. Kay, Project Advisor, RR #LP-D3, 2755, MSHS 6/77.

Gray, Brenda, "A Patient Origin Study of Metropolitan Atlanta Cardiac Catheterization Laboratories," North Central Georgia HSA, 28 pp., Bonnie J. Kay, Project Advisor, RR #LP-G3, 2779, MSHS 9/77.

Hancock, Buford E., "An Analysis of Materials Management Systems in a 62-Bed Hospital," Sam Howell Memorial Hospital, Cartersville, Ga., 63 pp., Justin A. Myrick, Project Advisor, RR #LP-H9, 2777, MSHS 9/77.

Kelley, John E., "Hospital Employee Turnover," Urban Medical Center, Marietta, Ga. and Crawford W. Long Memorial Hospital, 62 pp., Howard E. Fagin, Project Advisor, RR #LP-K1, 2785, MSHS 9/77.

Kowalski, Robert B., "A Technique for Health Needs Assessment," Health Systems Research Center, 19 pp., Bonnie J. Kay, Project Advisor, RR #LP-K1, 2784, MSHS 9/77.

Macari, Jane M., "Alternative Health Services Project," Bureau of Medical Assistance (Medicus project), 23 pp., Justin A. Myrick, Project Advisor, RR #LP-M4, 2782, MSHS 9/77.

Pilkington, Gilbert J., "Development of Factors of Patient Outcomes for Emergency Medical Services," Health Systems Research Center, 63 pp., Justin A. Myrick, Project Advisor, RR #LP-P3, 2783, MSHS 9/77.

Wensel, Ronald R., "Analysis of the Patient Transport System," Piedmont Hospital, 41 pp., Howard E. Fagin, Project Advisor, RR #LP-W10, 2800, MSHS 9/77.

Clark, Michael V., "Exercise and Cardiac Rehabilitation," Georgia Baptist Hospital, 14 pp., Justin A. Myrick, Project Advisor, RR #LP-C2, 2867, MSHS 12/77.

Simmons, Paul M., "A Census Forecast Model for Nursing Service Planning," Crawford W. Long Memorial Hospital, 43 pp., Howard E. Fagin, Project Advisor, RR #LP-S8, 2816, MSHS 12/77.

Stewart, Janet M., "Group Health Insurance Benefit Plans," HealthCare, Inc., 54 pp., Justin A. Myrick, Project Advisor, RR #LP-S8, 2868, MSHS 12/77.

Altus, Gene D., "Analysis of Materials Management," Urban Medical Center, Marietta, Ga., 32 pp., Jack W. LaPatra, Project Advisor, RR #LP-A2, 2864, MSHS 3/78.

Horne, Audrey W., "Consumer Representation in North Central Georgia Health Systems Agency," North Central Georgia HSA, 34 pp., Bonnie J. Kay, Project Advisor, RR #LP-H10, 2925, MSHS 3/78.

Schenk, David A., "Manpower Utilization and Control Systems," Saint Joseph Mercy Hospital, Pontiac, Mich., 55 pp., Justin A. Myrick, Project Advisor, RR #LP-S8, 2918, MSHS 3/78.

Brill, Bonnie E., "Facility Space Plan," Atlanta Easter Seal Rehabilitation Center, 24 pp., Bonnie J. Kay, Project Advisor, RR #LP-B5, 2866, MSHS 6/78.

Helleman, Christine M., "An Evaluation of Gynecological Services," Georgia Tech Infirmary, 33 pp., Bonnie J. Kay, Project Advisor, RR #LP-H9, 2981, MSHS 6/78.

Burns, Kenneth E., "A Study of Methods Used in Planning Psychiatric Bed Needs," Hospital Investors, Inc., 52 pp., Thomas H. Bowlin, Project Advisor, RR #LP-B5, 3027, MSHS 9/78.

Doehling, Gloria J., "Community Perceived Need for Medical Services as a Basis for Acceptance of Emergency Medical Coordinators," Health Systems Research Center, 118 pp., Justin A. Myrick, Project Advisor, RR #LP-D3, 3029, MSHS 9/78.

Nussman, Howard B., "A Feasibility Study and Proposal for a Neuro-Ortho-Cerebrovascular Unit," Crawford W. Long Memorial Hospital, 80 pp., Charles Y. Thomason, III, Project Advisor, RR #LP-N1, 3028, MSHS 9/78.

Carpenter, Joseph M., "A Computerized Forecasting Model for an Operational HMO," HealthCare, Inc., 46 pp., Justin A. Myrick, Project Advisor, RR #LP-C3, 3045, MSHS 12/78.

Horton, John A., "A Simulation Analysis of the Inpatient Admissions System," Piedmont Hospital, 21 pp., Thomas H. Bowlin, Project Advisor, RR #LP-H11, 3047, MSHS 12/78.

Wilbur, Daniel A., "A Study of the Effects of Rural Health Screening and Education on Patient Compliance," Pike County, Ga., 77 pp., Justin A. Myrick, Project Advisor, RR #LP-W5, 3046, MSHS 12/78.

Nagle, Charles L., "Community Health Needs Assessment--North Central Georgia Health Service Area," North Central Georgia Health Systems Agency, 67 pp., Bonnie J. Kay, Project Advisor, RR #LP-N-1, 3068, MSHS 3/79.

Piper, James H. Jr., "Computerized Data-Information System," Georgia Baptist Medical Center, 100 pp., Thomas H. Bowlin, Project Advisor, RR #LP-P3, 3048, MSHS 3/79.

Shafer, Paul L., "A Multiple Linear Regression Model for Estimating Population Mental Health Status," North Central Georgia HSA, 48 pp., Jack W. LaPatra, Project Advisor, RR #LP-S9, 3049, MSHS 3/79.

Sport, Barbara A., "The Mental Health Status Indicators Project," North Central Georgia HSA, 91 pp., Jack W. LaPatra, Project Advisor, RR #LP-S9, 3039, MSHS 3/79.

Thomas, Constance S., "A Study in Solving a Rural Community Primary Health Care Shortage," Bartow County, Ga., 50 pp. Jack W. LaPatra, Project Advisor, RR #LP-T1, 3050, MSHS 3/79.

Adams, Linda S., "An Evaluation of Hospital Suggestion Systems," Piedmont Hospital, 83 pp., Thomas H. Bowlin, Project Advisor, RR #LP-A3, 3078, MSHS 6/79.

Counts, David A., "The Development of an Information System for an Anesthesia Department," Grady Memorial Hospital, 76 pp., Thomas H. Bowlin, Project Advisor, RR #LP-C3, 3080, MSHS 6/79.

Jeansonne, James P., "Hospital Pharmacy Staff Requirements," Northeast Georgia Medical Center," 35 pp., Justin A. Myrick, Project Advisor, RR #L)-J1, 3079, MSHS 6/79.

Barton, Leon T., III, "Implementation of a Community Health Needs Assessment Survey," North Central Georgia HSA, 61 pp., Bonnie J. Kay, Project Advisor, RR #LP-B6, 3113, MSHS 9/79.

Blasak, Ruby E., "Room Utilization and Patient Flow of the Surgical Emergency Clinic," Grady Memorial Hospital, 44 pp., Thomas H. Bowlin, Project Advisor, RR #LP-B6, 3116, MSHS 9/79.

Coalson, Tommy C., "Outpatient Cardiac Rehabilitation," Georgia Baptist Hospital, 44 pp., Justin A. Myrick, Project Advisor, RR #LP-C4, 3118, MSHS 9/79.

Cowan, David Z., "Nurse Staffing and Paper Flow Analysis," Grady Memorial Hospital, 27 pp., Thomas H. Bowlin, Project Advisor, RR #LP-C4, 3115, MSHS 9/79.

Hernandez, Rafael, "Hospital Engineering and Maintenance: A Study of Departmental Requirements, Operations & Management," Health Systems Research Center, 47 pp., Thomas H. Bowlin, Project Advisor, RR #LP-H11, 3117, MSHS 9/79.

Kitchens, Dennis O., "Modeling the Demand for Health Care; a Multiple Regression Approach," Health Systems Research Center, 35 pp., Justin A. Myrick, Project Advisor, RR #LP-K2, 3112, MSHS 9/79

Button, James F., "An Application of Multi-Attribute Decision Models: The Development of Life-Care Communities for the Elderly," Hospital Investors, Atlanta, 46 pp., Jack LaPatra, Project Advisor, RR #LP-B6, 3139, MSHS 12/79.

Hudak, Gerald M., "Alternative Uses of the Patient Classification Systems," Crawford W. Long Memorial Hospital, 66 pp., Charles Y. Thomason, III, Project Advisor, RR #LP-H11, 3143, MSHS 12/79.

Snow, Rose, "Prescribing, Dispensing and Consuming Generic Substitutes in Atlanta," Health Systems Research Center, Georgia Tech, 36 pp., Bonnie J. Kay, Project Advisor, RR #LP-S10, 3122, MSHS 12/79.

H.S. Field Training Record

Site	Title	Student	Qtr.
The Medical Center, Columbus	A Study of the Business Office at the Medical Center of Columbus, GA	Jensen	Su'73
F. Levering Neely, M.D., Priv. Prac.	Scheduling in an Office-Clinic Practice	Binion	W'74
Piedmont Hospital	The Discharge and Transfer System at Piedmont Hosp.	Henderson	W'74
Kennestone Hospital, Marietta	Patient Transportation and IV and Pharmaceutical Distribution and Flow	Paine	W'74
John L. Hutcheson Mem. Tri-County Hosp., Ft. Oglethorpe	Application of Hospital Industrial Engineering in the Lab	VanLandingham	W'74
Div. of Computer Services, Medical College of GA	Patient Service Request and Charge Source Data Acquisition at Eugene Talmadge Memorial Hospital	Williamson	Su'74
Crawford W. Long Memorial Hospital	Crawford W. Long Memorial Hospital Outpatient Billing System	McQuade	F'74
Crawford W. Long Memorial Hospital	A Study of the Medical Records Department at Crawford W. Long Memorial Hospital	Berg	Sp'75
F. Levering Neely, M.D., Priv. Prac.	Billing and Insurance Functions in a Medical Group Practice	Gutierrez	W'75
Crawford W. Long Memorial Hospital	Courier-Patient Transport at Crawford W. Long Memorial Hosp.	Smith	W'75
GA Hospitals Shared Services, Inc.	Hospital Charging Systems	Buck	Sp'75
VA Hospital	A Management Information System Proposal for the Atlanta Veterans Administration Hospital	Gettmann	Su'75
Doctors Hospital, Tucker	Doctors Hospital Housekeeping Study	McQuade	Su'75
GA Hospitals Shared Services, Inc.	A Workload Monitoring System for the Dietary Department (Hall County Hospital)	Schwartz	Su'75
Medicus, Inc., Nashville	Charge Collection and Control Study for Vanderbilt University Medical Center	Steffel	Su'75
Crawford W. Long Memorial Hospital	Energy Management at Crawford W. Long Memorial Hospital	Bagg	Su'75
Metropolitan Emergency Medical Services (MEMS)	A Time-Study of EMS Dispatch and Communication Center Design	Brandenburg	Su'75
Georgia Department of Human Resources	Status Offenders in the State of Georgia: Analysis of Their Health Care Needs	Macari	Su'75
Atlanta Regional Commission	A Nursing Home Patient Study of the Atlanta Region	Pattillo	Su'75
Henson Dental Clinic	Cost Analysis of Procedures at the Henson Dental Clinic	O'Toole	Su,F'75
Crawford W. Long Memorial Hospital	Development of a Patient Classification System for Crawford W. Long Memorial Hospital	Harrison	W'76
MEMS	Project Management of the Installation of a Regional Emergency Medical Communications Center	Smith	W'76
Grady Memorial Hospital	A Staffing Analysis of the Clinical Chemistry Lab--Grady Memorial Hospital	Ford	W'76
Grady Memorial Hospital	A Central Supply Study: Staffing--Operational Analysis and Standards Development	Adiele	Sp'76
Northside Hospital	Design and Implementation of an Automatic Stocking System	Barnes	Sp'76
Crawford W. Long Memorial Hospital	A Work Sampling Study of the Indirect Component of Nursing Care at Crawford W. Long Memorial Hospital	Barnes	Sp'76

Site	Title	Student	Qtr.
Health Planning/Development Center	An Analysis of the Health Systems Agencies: DHEW Region IV	Ciesiel	Sp'76
Children's Hospital, Pittsburgh	A Systems and Procedures Study of Patient Flow in the Development Clinic	Dickinson	Sp'76
Grady Memorial Hospital	An Inventory Ordering System for the Clinical Chemistry Lab**	Ford	Sp'76
Hall County Hospital, Gainesville	A Production Planning Methodology for the Hall County Hospital Laundry	Sanders	Sp'76
Medical College of Georgia Hospital and Clinic, Augusta	A General Procedural and Staffing Proposal for the Admissions System of the Medical College of Georgia	Whitby	Sp'76
West Paces Ferry Hospital	Shared Services for Physicians at West Paces Ferry Hospital	Lewis	Sp'76
MEMS	A Study of the Usefulness of the Information Collected at MEMS	Acquin	Su'76
Crawford W. Long Memorial Hospital	Development of a Staffing Guide by Skill Level for Crawford W. Long Memorial Hospital	Brown	Su'76
Health Planning/Development Center	An Improved HSA Abstract Format	Doran	Su'76
Grady Memorial Hospital	A Study of Distribution and Control of Sterile Linen Between Central Sterile Supply and OR/OB at Grady Memorial Hosp.	Gavant	Su'76
Crawford W. Long Memorial Hospital	A Staffing Analysis of the Radiology Department	Samra	F'76
ORA Industries (Owner of nursing home chain)	An Analysis of the Nursing Services Provided Intermediate and Skilled Patients in Nursing Homes	Coffey	F'76
MEMS	Response Time Comparisons Before and After MEMS Began*	Hardy	W'77
Doctor's Hospital, Tucker	Layout Evaluation and Recommendations	Healy	W'77
Grady Memorial Hospital	A Systems Approach Applied to the Surgical Emergency Clinic	Mahan	W'77
Grady Memorial Hospital	Staff Utilization and Work Distribution Analysis of the Surgical Emergency Clinic Personnel	Matsunaga	W'77
Kennestone Hospital, Marietta	Impact Analysis of Changing to a Unit Dose System	Mee	W'77
Crawford W. Long Memorial Hospital	A Study of Standard Hours in the Intensive and Intermediate Care Units	Nussman	W'77
Grady Memorial Hospital	Distribution of Supplies from the Central Supply Department	Robison	W'77
SS OB/GYN, P.A.	Feasibility Study of Alternative Business and Front-Office Procedures for a Medical Group Practice	Zalesky	W'77
Crawford W. Long Memorial Hospital	Staff Utilization and Delay Analysis of the Emergency Room at Crawford Long Memorial Hospital	Greene	Sp'77
SW Georgia HSA, Albany	A Rural Health Initiative Proposal for Lenox, GA	Horton	Sp'77
HSA of Central Georgia, Warner Robins	The Nature and Problems of the Coordination of Services Between Area V Mental Health Systems Resources	Pendleton	Sp'77
VA Hospital	The Utilization of Physician Associates in the Atlanta Veterans Administration Hospital	Platt	Sp'77
Metropolitan Eye & Ear Hosp. (Charter Medical)	Cost Effective Inventory Control for Charter Medical Corporation Facilities	Weaver	Sp'77
Grady Memorial Hospital	A Staffing Analysis of the Central Services and Stores Dept.	Amos	Su'77

*Non-Circulating Report.
**H.S. 3971--Follow-up to externship project, Winter '76.

Site	Title	Student	Qtr.
Crawford W. Long Memorial Hospital	A Study of Distribution of Linen Between the Laundry Department and Orthopedic/Pediatrics at Crawford W. Long Memorial Hospital	Doi	Su'77
Grady Memorial Hospital	A Productivity Study of the Surgical and Medical Clinics at Grady Memorial Hospital	Dlugosz	Su'77
Colony Medical Group	An Examination of a Comprehensive Company Physical Program in a Medical Group Practice	Scott	Su'77
Maternal Health Section, Department of Human Resources	An Evaluation Plan for the Program of Care for Medically Indigent High-Risk Women and Their Infants	Scott	Su'77
Colony Medical Group	A Comparative Analysis of Patient Flows and the Utilization of the Staff at Colony Medical Group	Abrams	F'77
W. T. Brooks Clinic, East Point	A Rural Health Initiative Project for Palmetto, GA	Cook	F'77
Crawford W. Long Memorial Hospital	Development of Nurse Staffing Methodologies for the Obstetrics Department at Crawford W. Long Memorial Hospital	Currie	F'77
Shallowford Community Hospital	An Emergency Service Area for Shallowford Community Hospital	Fite	F'77
Grady Memorial Hospital	A Study of the Grady Memorial Sterile Supply Room	Irven	F'77
North Central Georgia HSA	A Plan for the Inventory of Hospital Services	Jones	F'77
The Health Services Group	A Determination of the Cost Effectiveness of a Computerized Medicaid Claims Processing System	Hill	W'78
Crawford W. Long Memorial Hospital	A Methods Improvement and Organizational Study of Central Service of Crawford W. Long Hospital	McShurley	W'78
Spectra Medical System, Inc.	Lost Charge Analyses in Northeast Georgia Medical Center for Spectra Medical System, Inc.	Sandifer	W'78
Emory Hypertension Clinic	Identification of Factors Which Lead to Poor Compliance in the Treatment of Hypertension	Baird	Sp'78
North Central Georgia HSA	An Assessment of the Current Bed Situation in the North Central Georgia Health Service Area	Dasinger	Sp'78
Northside Hospital	Development of a Transition Plan (for compliance with DHEW Regulation #504 for accessibility by the handicapped)	Haley	Sp'78
Crawford W. Long Memorial Hospital	A Study of the Implications Associated With the Restructure and Reorganization of the Nursing Service Department of the Crawford W. Long Memorial Hospital	Lewis & Owen	Sp'78
National Computer Sales and Tech.	Assessing Computer Needs in the Hospital	McKay	Sp'78
North Central Georgia HSA	An Assessment of the Environmental Health Services and Their Impact on the Health of the Area III Population	Miller	Sp'78
Northside Hospital	Cost Monitoring System	Bell	Sp'78
Roosevelt-Warm Springs Rehabilitation Center, Warm Springs	Analysis of the Food Service Facilities at the Roosevelt-Warm Springs Rehabilitation Center	Fountain	Sp'78
Roosevelt-Warm Springs Rehabilitation Center, Warm Springs	Executive Personnel Time Distribution Survey	Alvord	Su'78

Site	Title	Student	Qtr.
Doctor's Memorial Hospital	A Study of the Productivity in the Maintenance Department at Doctor's Memorial Hospital	Alston	Su'78
Joint Board of Family Practice	Development of a Scheduling Tool for Community Based Family Practice Residency Program Implementation	Bailey	Su'78
Southwest Georgia HSA, Albany	An Analysis of Mental Health Services for Children in Southwest Georgia	Couch	Su'78
DeKalb Mental Health Center, Decatur	The Balanced Service System and its Financial Effects on the Central DeKalb Mental Health Center	Flinn	Su'78
Floyd Medical Center, Rome	A Staffing Analysis of the Radiology Department	Hansen	Su'78
Grady Memorial Hospital	The Inpatient Dietary Services at Grady Memorial Hospital	McCall	Su'78
Crawford W. Long Memorial Hospital	A Study of the Workload and Activities of Special Nursing Positions at Crawford W. Long Memorial Hospital	Misiak	Su'78
National Computer Sales and Tech.	The System for Hospital Uniform Reporting: A Study of the Difficulty of Implementation in Georgia Hospitals	Clyatt	F'78
Crawford W. Long Memorial Hospital	A Nurse Staffing Study of a General Medical/Surgical Unit at Crawford W. Long Memorial Hospital	Gribble	F'78
Doctors Memorial Hospital	A Feasibility Study, the Courier System at Doctors Memorial Hospital	Jackson	F'78
Northside Hospital	Identification of Costs and Related Charges in the Outpatient Surgery and Main Operating Room Departments	Mize	F'78
Roosevelt-Warm Springs Rehabilitation Center, Warm Springs	A Study of the Medical Records Department	Anderson	W'79
Univ. of Texas System Cancer Center, Houston	Patient Acuity Assessment System in an Oncology Setting	Clevenger	W'79
Crawford W. Long Memorial Hospital	An Evaluation of Alternatives for Improving the Operations of the Outpatient Clinic at Crawford W. Long Memorial Hospital	Davis	W'79
Doctors Hospital, Tucker	Design Layout for an Administrative Expansion of Doctors Hospital	Guigou	W'79
Northside Hospital	Analysis of Biomedical Service-Maintenance Spending	Groover	W'79
Grady Memorial Hospital	A Housekeeping Quality Assurance Program	Hipsman	W'79
North Central Georgia HSA	Long Term Support Services: An Annotated Bibliography	Odom	W'79
Joint Board of Family Practice	A Survey of the Locations and Specialty Selections of Recent Graduates of Georgia Medical Schools	Settles	W'79
Center for Disease Control	Storage and Distribution of Material in a Disaster Relief Program	Smallwood	W'79
DeKalb County Health Dept., Decatur	An Analysis of Management Information System Usage at Central DeKalb Mental Health/Mental Retardation Center	Wright	W'79
Northside Hospital	Main Recovery Room Staffing and Utilization Analysis	Chammoun	Su'79
St. Joseph's Hospital	Inventory Control in the Pharmacy	Cunningham	Su'79
Grady Memorial Hospital	A Proposed Linen Accounting System	Fressell	Su'79

Site	Title	Student	Qtr.
Crawford W. Long Memorial Hospital	A Study of Cost Impacts of Nurse Staffing Decisions	Jones	Su'79
Spalding County Hospital, Griffin	Documentation of the Radiology Department	Kent	Su'79
Doctor's Hospital, Tucker	An Analysis of the Medical Record Department	Lummus	Su'79
Joint Board of Family Practice	Physician Recruitment in Rural America: A Summary of Programs in the United States	Olive	Su'79
Western Colorado HSA, Grand Junction, CO	Financial Feasibility of Rural Primary Health Care	Schaeffer	Su'79
Grady Memorial Hospital	A Study of the Nursing and Clerical Staff of the Grady Memorial Hospital High Risk Nursery	Soules	Su'79
DeKalb General Hospital, Decatur	Design of a Cart Exchange System	Zimmerman	Su'79
St. Joseph's Hospital	Evaluation of the Patient Classification System of the St. Joseph's Hospital Oncology Unit	Bagadiya	F'79
North Central Georgia HSA	An Analysis of Characteristics of Persons With Bladder Cancer With Emphasis on Occupational History	Billiris	F'79
Crawford W. Long Memorial Hospital	A Systems Analysis of the Operating Suite at Crawford W. Long Memorial Hospital	Clayton	F'79
Joint Board of Family Practice	Physician Recruitment in Rural Georgia: A Summary of Current Programs	Hogg	F'79
Primary Care Division, Georgia Department of Human Resources	A Computerized Model for Rural Primary Health Care Centers in Georgia	Mello	F'79
Grady Memorial Hospital	Disposable or Re-Usable?	Phillips	F'79
St. Joseph's Hospital	The Cart Exchange System of Saint Joseph's Hospital	Herndon	W'80
Crawford W. Long Memorial Hospital	The Formulation of a Nursing Budget at Crawford W. Long Memorial Hospital	Maurice	W'80
Medicus Systems, Washington, D.C.	Needs Assessment for the Maryland Alcoholism Service Delivery System Study	Meree	W'80
Doctors Hospital, Tucker	A Functional Layout of the Pharmacy Department of Doctors Hospital	Stokes	W'80
Grady Memorial Hospital	Staffing Analysis and Standards Development for Anesthesia Technical Assistance Personnel...	Veale	W'80
Northside Hospital	Laboratory Staffing and Utilization Analysis	Wilcox	W'80

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Project Advisor	Preceptor	Site Admin.	Site	Grad. Date
Aborjaily, Karen C.	F'76	Physician Productivity Assessment	LP-A2 2654	Fagin		Menke & Fagin	Nine physicians' offices, Atlanta	12/76
Bagg, Halsey M.	F'76	A Quality Control Measure for Nursing Service	LP-B5 2656	Kay		John O. Henry & Vivan Carlton	Crawford W. Long Memorial Hospital, Atlanta	12/76
Cochran, Roger	F'76	Emergency Aid Seeking Behavior in the Metropolitan Atlanta Area	LP-C2 2655	Myrick		Joel Parris, III	Metropolitan Emergency Medical Services (MEMS), Atlanta	12/76
Drake, Philip	F'76	Egleston Hospital Radiology Department Analysis	LP-D1 2661	Myrick		Ms. Pat McLure	Henrietta Egleston Hospital, Atlanta	12/76
Kaufman, Nathan	F'76	Mental Health Needs Assessment--South DeKalb	LP-K1 2657	Myrick		Constant Yang	South DeKalb Mental Health Center (Georgia)	12/76
Dollar, E. Lester	Sp'77	Materials Management Proposal for Fannin Regional Hospital	LP-D3 2755	Kay		Joseph Talbird	Fannin Regional Hospital (GHSS)	6/77
Gray, Brenda	Su'77	A Patient Origin Study of Metropolitan Atlanta Cardiac Catheterization Laboratories	LP-G3 2779	Kay		Dr. Bonnie Kay	North Central Georgia HSA	9/77
Hancock, Buford E.	Su'77	An Analysis of Materials Management Systems in a 62-Bed Hospital	LP-H9 2777	Myrick		Joe Talbird	Sam Howell Memorial Hospital, Cartersville, Ga.	9/77
Kelley, John E.	Su'77	Hospital Employee Turnover	LP-K1 2785	Fagin			Urban Medical Hospital, Marietta, Ga. and Crawford W. Long Hospital, Atlanta	9/77

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Project Advisor	Preceptor	Site Admin.	Site	Grad. Date
Baxter, Susan	Su'76	Determination of Cost Savings with the Food Management System	LP-B4 2612	Fagin		John Freeman	Grady Memorial Hospital(Medicus Corp. Project) Atlanta, Ga.	9/76
Carrico, Dawn	Su'76	Georgia Diagnostic and Classification Center Patient Flow Study	LP-C2 2613	Kay		James G. Ricketts	Georgia Diagnostic and Classification Center, Jackson, Ga.	9/76
Galimore, Don O.	Su'76	Simulation Modeling in Financial Feasibility Studies for a Health Maintenance Organization	LP-G1 2614	Myrick		Wayne Stephens	Decatur Church of Christ Senior Housing, Decatur, Ga.	9/76
Goodman, Clifford S.	Su'76	Hematocrit as an Index of Iron Deficiency in a Supplementary Food Program	LP-G1 2646	Kay		Buretta Shepherd	Kirkwood Community Health Center, Atlanta	9/76
Hagan, Robert J.	Su'76	Consumer Representation on Health Systems Agencies Board of Directors	LP-H7 2610	Fagin		---	Public Health Service, Region IV, Atlanta, GA	9/76
Steffel, Robert	Su-76	Planning the Development of Health Services Using Systems Simulation	LP-S8 2611	Wallace		---	Health Systems Research Center, Georgia Tech, Atlanta, Ga.	9/76
Tindall, James R. (Jim)	Su-76	Development of a Simulation Model for a Proposed Health Maintenance Organization	LP-T1 2609	Myrick		Wayne Stephens	Decatur Church of Christ Senior Housing, Decatur, Ga.	9/76

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Project Advisor	Preceptor	Site Admin.	Site	Grad. Date
Kowalski, Robert B.	Su'77	A Technique for Health Needs Assessment	LP-K1 2784	Kay		NA	Health Systems Research Center	9/77
Macari, Jani	Su'77	Alternative Health Services Project	LP-M4 2782	Myrick	Dr. Shannon Brunjes (ICS)	Dr. Lyman Dennis (Medicus)	Bureau of Medical Assistance	9/77
Pilkington, Gilbert	Su'77	Development of Factors of Patient Outcomes for Emergency Medical Services	LP-P3 2783	Myrick		NA	Health Systems Research Center	9/77
Simmons, Paul	Su'77	A Census Forecast Model for Nursing Service Planning	LP-S8 2816	Fagin		K. Pope	Crawford W. Long Memorial Hospital, Atlanta	9/77
Wensel, Ronald	Su'77	Analysis of the Patient Transport System of Piedmont Hospital	LP-W10 2800	Fagin		Carl Thielmann	Piedmont Hospital, Atlanta	9/77
Altus, Gene D.	F'77	Analysis of Materials Management at Urban Medical Hospital	LP-A2 2864	LaPatra		Ms. E. Williams	Urban Medical Center, Marietta, Ga.	3/78
Brill, Bonnie	F'77	Facility Space Plan	LP-B5 2866	Kay		Dr. Bonnie Kay (Lee Baker)	Atlanta Easter Seal Rehabilitation Center	6/78
Clark, Mike V.	F'77	Exercise and Cardiac Rehabilitation	LP-C2 2867	Myrick		Dr. Gerald Fletcher	Georgia Baptist Hospital. Atlanta	12/77
Stewart, Janet	F'77	Group Health Insurance Benefit Plans	LP-S8 2868	Myrick		Wayne Stephens	HealthCare, Inc., Decatur, Ga.	12/77

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Project Advisor	Preceptor	Site Admin.	Site	Grad. Date
Horne, Audrey W.	W'78	Consumer Representation in North Central Georgia Health Systems Agency	LP-H10 2925	Kay	---	NA	North Central Ga. Health Systems Agency	3/78
Schenk, David A.	W'78	Manpower Utilization and Control Systems for Saint Joseph Mercy Hospital, Pontiac, Mich.	LP-S8 2918	Myrick	J. Freeman, Medicus		Saint Joseph Mercy Hospital, Pontiac, Mich.	3/78
Hellerman, Christine	Sp.78	An Evaluation of the Gynecological Services offered at the Georgia Tech Infirmary	LP-H9	Kay	---	Dr. Bonnie Kay	Georgia Tech Infirmary, Atlanta	6/78
Burns, Kenneth	Su'78	A Study of Methods Used in Planning Psychiatric Bed Needs	LP-B5 3027	Bowlin	---	D. Whelan	Hospital Investors, Inc., Atlanta	9/78
Doehling, Gloria J.	Su'78	Community Perceived Need for Medical Services as a Basis for Acceptance of Emergency Medical Coordinators	LP-D3 3029	Myrick	---	NA	Health Systems Research Center, Georgia Tech	9/78
Nussman, Howard	Su'78	A Feasibility Study and Proposal for a Neuro-Ortho-Cerebrovascular Unit at Crawford W. Long Hospital	LP-N1 3028	Thomason	---	John Henry	Crawford Long Hospital, Atlanta	9/78
Carpenter, Joseph Mark	F'78	A Computerized Forecasting Model for an Operational HMO	LP-C3 3045	Myrick	---	Wayne Stephens	HealthCare, Inc. Atlanta	12/78

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Project Advisor	Preceptor	Site Admin.	Site	Grad. Date
Horton, John A.	F'78	A Simulation Analysis of the Inpatient Admissions System at Piedmont Hospital	LP-H11 3047	Bowlin	---	C. Theilman	Piedmont Hospital, Atlanta	12/78
Wilbur, Daniel A.	F'78	A Study of the Effects of Rural Health Screening and Education on Patient Compliance.	LP-W5 3046	Myrick	---	J. Myrick	Pike County, GA	12/78
Nagle, Charles L.	W'79	Community Health Needs Assessment--North Central Georgia Health Service Area	LP-N1 3068	Kay	---	Adele Cohen	North Central Georgia Health Systems Agency, Atlanta	3/79
Piper, James H., Jr.	W'79	Computerized Data-Information System	LP-P3 3048	Bowlin	---	Dr. Gerald Fletcher	Georgia Baptist Medical Center, Atlanta	3/79
Shafer, Paul L.	W'79	A Multiple Linear Regression Model for Estimating Population Mental Health Status	LP-S9 3049	LaPatra	---	C. Taylor	North Central Georgia Health Systems Agency, Atlanta	3/79
Sport, Barbara A.	W'79	The Mental Health Status Indicators Project	LP-S9 3039	LaPatra	---	C. Taylor	North Central Georgia Health Systems Agency, Atlanta	3/79
Thomas, Constance S.	W'79	A Study in Solving a Rural Community Primary Health Care Shortage	LP-T1 3050	LaPatra	---	--- (Georgia Student Health Assn.)	Bartow County, GA	3/79

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Faculty Advisor	Preceptor	Site Admin.	Site	Grad. Date
Adams, Linda S.	Sp'79	An Evaluation of Hospital Suggestion Systems	LP-A3 3078	Bowlin		Darell Cutts	Piedmont Hospital Atlanta	6/79
Counts, David A.	Sp'79	Development of an Information System for an Anasthesia Department	LP-C3 3080	Bowlin	Dr. Frank Brown	Frank Lawford	Grady Memorial Hospital, Atlanta	6/79
Jeansonne, James P.	Sp'79	Hospital Pharmacy Staff Requirements--Northeast Georgia Medical Center	LP-J1 3079	Myrick		---	Northeast Georgia Medical Center, Gainesville, GA	6/79
Barton, Leon T.III	Su'79	Implementation of a Community Needs Assessment Survey	LP-B6 3113	Kay		Adele Cohen	North Central Georgia HSA, Atlanta	9/79
Blasak, Ruby E.	Su'79	Room Utilization and Patient Flow of the Surgical Emergency Clinic	LP-B6 3116	Bowlin		Dr. D.P. Golightly	Grady Memorial, Hospital, Atlanta	9/79
Coalson, Tommy C.	Su'79	Outpatient Cardiac Rehabilitation	LP-C4 3118	Myrick		Robert Zwald	Georgia Baptist Hospital, Atlanta	9/79
Cowan, David Z.	Su'79	Nurse Staffing and Paper Flow Analysis	LP-C4 3118	Bowlin		Dr. D.P. Golightly	Grady Memorial Hospital, Atlanta	9/79
Kitchens, Dennis O.	Su'79	Modeling the Demand for Health Care: A Multiple Regression Approach	LP-K2 3112	Myrick		---	Health Systems Research Center, Atlanta	9/79
Hernandez, Rafael	Su'79	Hospital Engineering & Maintenance: A Study of Departmental Requirements, Operations & Management	LP-H11 3117	Bowlin		---	Health Systems Research Center, Atlanta	9/79

MSHS FIELD TRAINING RECORD

Name	Qtr. Done	Title of Project	R.R. Call #	Faculty Advisor	Preceptor	Site Admin.	Site	Grad. Date
Button, James F.	F'79	An Application of Multi-Attribute Decision Models: The Development of Life-Care Communities for the Elderly	LP-B6 3139	LaPatra		Brent Jorgeson	Hospital Investors, Atlanta	12/80
Hudak, Gerald M.	F'79	Alternative Uses of the Patient Classification Systems at Crawford W. Long Hospital	LP-H11 3143	Thomason		Katherine Pope	Crawford W. Long Memorial Hospital	12/80
Snow, Rose	F'79	Prescribing, Dispensing and Consuming Generic Substitutes in Atlanta	LP-S10 3122	Kay		---	Health Systems Research Center, Georgia Tech	12/80
Russell, Philip W.	W'80	Primary Care Physician Manpower Report: State of Georgia, 1980 - 2000.	LP-R2 3162	Kay		Adam Jablonowski	Joint Board of Family Practice, Atlanta	3/80
Wahlig, Linda W.	W'80	A Preliminary Health Education Program for a Health Maintenance Organization	LP-W10 3163	Myrick		Wayne Stephenson	HealthCare, Inc., Atlanta	3/80

Appendix 7

UNDERGRADUATE EXTERN QUESTIONNAIRE

Directions: For each question, please use the space provided to write in the answer or check the appropriate box(es). Please answer all questions. Data from this questionnaire will be aggregated so that individual respondent's answers cannot be identified.

1. What quarter and year do you expect to graduate?_____Quarter, 19_____

2. During which quarter of which year did you do your externship?_____Quarter, 19_____.

3. Which of the following phrases best describes the manner by which your externship project was chosen?

   /__/ The site and project were assigned to me; I participated minimally in the selection process.

   /__/ After site assignment I participated heavily in the choice of an externship project.

   /__/ Other (specify):_____

   _____

4. Give the name of the site for your externship project:_____

   _____

5. Which of the following alternatives characterizes the site?

   Hospital-
   - /__/ Government
   - /__/ Public
   - /__/ Private

   Physician Practice-
   - /__/ Solo
   - /__/ Group

   Government Agency-
   - /__/ (specify)_____

   _____

   Other-
   - /__/ Health Systems Agency
   - /__/ (specify)_____

6. Please characterize your externship project by checking the topic area(s) describing the problem environment of the project. (Your may check more than one box)

   - /__/ Improving Work Methods
   - /__/ Management of Data and/or Information
   - /__/ Job Analysis and Evaluation
   - /__/ Employee Motivation and Compensation
   - /__/ Anticipating Future Requirements
   - /__/ Inventory Management and Control
   - /__/ Facilities Design and Space Utilization
   - /__/ Costing and Economic Evaluation
   - /__/ Resource Allocation
   - /__/ Staffing and Scheduling
   - /__/ Personnel Administration
   - /__/ Planning Health Facilities
   - /__/ Financial Management and Control
   - /__/ Project Management
   - /__/ Cost Containment
   - /__/ Compliance with Regulatory Requirements

7. Besides your externship project, were there other projects you worked on while at the assigned site?

   /__/ Yes /__/ No

   If "Yes," how many?_____

8. If you had not completed all coursework listed in the Georgia Tech catalog as being prerequisites to the externship, which courses had you missed?

9. The following list summarizes the range of techniques included in Health Systems coursework leading to the B.S. Please indicate--by checking--which of these techniques were used in either your externship project or in other projects at the site, and for those techniques you check also indicate the level of preparation you feel you had in them.

	Used in Extern Project	Used in Other Project(s)	Preparation	
			Insuff.	Sufficient
Health Facility Planning	☐	☐	☐	☐
Computer Programming and Data Processing	☐	☐	☐	☐
Engineering Economy and Economic Decision-making	☐	☐	☐	☐
Facility Layout	☐	☐	☐	☐
Materials Handling	☐	☐	☐	☐
Mathematical Modeling	☐	☐	☐	☐
Optimization Methods	☐	☐	☐	☐
Forecasting	☐	☐	☐	☐
Inventory Management and Control Techniques	☐	☐	☐	☐
Job Analysis and Evaluation	☐	☐	☐	☐
Manpower Scheduling and/or Staffing	☐	☐	☐	☐
Work Scheduling	☐	☐	☐	☐
Methods Analysis and Work Simplification	☐	☐	☐	☐
Time Study	☐	☐	☐	☐
Work Sampling	☐	☐	☐	☐
Standard Data and/or Predetermined Motion Times	☐	☐	☐	☐
Descriptive Statistics	☐	☐	☐	☐
Estimation and Hypothesis Testing	☐	☐	☐	☐
Quality Control	☐	☐	☐	☐
Simulation	☐	☐	☐	☐
Queueing Theory	☐	☐	☐	☐
Project Management Techniques	☐	☐	☐	☐
Sampling	☐	☐	☐	☐
Project Evaluation	☐	☐	☐	☐
Decision Analysis	☐	☐	☐	☐
Group Consensus/Decision-Making Techniques	☐	☐	☐	☐
Survey Instrument Design	☐	☐	☐	☐
Health Care Needs Assessment	☐	☐	☐	☐
Health Status Measurement	☐	☐	☐	☐
Quality of Care Measurement	☐	☐	☐	☐
Accessibility of Care Measurement	☐	☐	☐	☐

10. From your externship experience, did you become aware of subject matter in which you felt less than adequately prepared (i.e., subject matter which might be covered in coursework at Tech)?

/__/ Yes /__/ No

If "No," skip to Question #14.

11. Did the deficiency described lead you to modify your program of study, i.e., to change coursework upon returning from the externship quarter?

/__/ Yes /__/ No /__/ No, because externship was last quarter at Tech

If "No," skip to Question #13; if "No, because externship was last quarter at Tech," skip to Question #14.

12. Please describe the modification you made, and the reasoning behind the change.

Skip to Question #14.

13. Check the box below next to the reason that best describes your decision not to modify your program of study (to "make up" for the deficiency mentioned in Question #10).

/__/ Impossible to schedule the appropriate class(es) before graduation.

/__/ Did not feel the deficiency warranted scheduling additional class(es).

/__/ Although there was a desire to modify my program of study, I was not allowed to make the change(s) due to School regulations, constraints or the like.

/__/ Did not desire to make change(s) in program of study.

14. During your externship, how much interaction with your faculty advisor did you desire?

/__/ Minimal interaction /__/ Moderate interaction /__/ Frequent interaction

15. During your externship, how much interaction with your faculty advisor did you have?

/__/ Minimal interaction /__/ Moderate interaction /__/ Frequent interaction

16. How would you characterize the following aspects of your externship?

	Very Dissatisfying	Somewhat Dissatisfying	Somewhat Satisfying	Very Satisfyin
a. Educational value	/__/	/__/	/__/	/__/
b. Work experience	/__/	/__/	/__/	/__/
c. Interaction with faculty advisor	/__/	/__/	/__/	/__/
d. Contact with potential employer(s)	/__/	/__/	/__/	/__/
e. Grading of externship (i.e., using written report, oral presentation as basis)	/__/	/__/	/__/	/__/

. Which option are you completing?

/__/ Analyst /__/ Planning /__/ Premedical

. Please use the remainder of this page and the reverse side to make any comments you wish to regarding the externship concept, your experiences in the externship, ways to improve the externship experience for future students, etc.

THANKS FOR YOUR COOPERATION!

MASTERS PROJECT QUESTIONNAIRE

Directions: For each question, please use the space provided to write in the answers, or check the appropriate boxes. Please answer all questions. Data from this questionnaire will be aggregated, along with data from other questionnaires, so that individual respondents' answers cannot be identified.

1. What quarter and year do you expect to graduate? _____ Quarter, 19_____

2. What quarter did you take ... (a) H.S. 6571? _____ Quarter, 19_____
   (b) H.S. 6572? _____ Quarter, 19_____
   (c) H.S. 6573? _____ Quarter, 19_____

3. Which option are you following? /__/ Planning Option /__/ Analysis Option

4. Give the name of the site of your Masters project: _____

   _____

5. Which of the following descriptors best characterizes the site?

   Hospital-
   - /__/ Government
   - /__/ Public
   - /__/ Private

   Physician Practice-
   - /__/ Solo
   - /__/ Group

   Government Agency-
   - /__/ (specify) _____

   Other-
   - /__/ Health Systems Agency
   - /__/ (specify) _____

6. Please characterize your Masters project by checking the topic area(s) describing the problem environment of the project. (You may check more than one box)

   - /__/ Improving Work Methods
   - /__/ Management of Information
   - /__/ Job Analysis and Evaluation
   - /__/ Employee Motivation and Compensation
   - /__/ Anticipating Future Requirements
   - /__/ Inventory Management and Control
   - /__/ Facilities Design and Space Utilization
   - /__/ Costing and Economic Evaluation
   - /__/ Resource Allocation
   - /__/ Staffing and Scheduling
   - /__/ Personnel Administration
   - /__/ Planning Health Facilities
   - /__/ Financial Management and Control
   - /__/ Project Management
   - /__/ Cost Containment
   - /__/ Compliance with Regulatory Requirements

7. During your Masters project, how much interaction with your faculty advisor did you desire?

   /__/ Minimal interaction /__/ Moderate interaction /__/ Frequent interaction

8. During your Masters project, how much interaction with your faculty advisor did you have?

   - /__/ Insufficient amount based on my need
   - /__/ About the right amount
   - /__/ More than necessary, but at the faculty member's request
   - /__/ More than enough I realize now, but at my insistence

9. Please indicate which of the following (Core Requirements) courses you took in quarters before you started your Masters project, and which you took in quarters while you were working on your project. (If you substituted courses for any of the courses listed, write in the substitute and provide the same information for that course.)

	Took Before Starting Masters Project	Took While Working On Masters Project
a. H.S. 6001	☐	☐
b. H.S. 6231	☐	☐
c. H.S. 6331	☐	☐
d. H.S. 6332	☐	☐
e. H.S. 6333	☐	☐
f. H.S. 6340	☐	☐
g. H.S. 6341	☐	☐
h. H.S. 6351	☐	☐
i. H.S. 6765	☐	☐

0. Which, if any, of the courses in your Option (i.e., the 15 hours you select) had you taken prior to starting your Masters project?

1. Which, if any, of the courses in your Option did you take while working on your Masters project?

2. How would you characterize the following aspects of your Masters project?

	Very Dissatisfying	Somewhat Dissatisfying	Somewhat Satisfying	Very Satisfying
a. Educational value	☐	☐	☐	☐
b. Work experience	☐	☐	☐	☐
c. Contact with potential employer(s)	☐	☐	☐	☐
d. Grading of project (i.e., using written report, oral presentation as basis)	☐	☐	☐	☐
e. Faculty guidance and input (i.e., of your advisor)	☐	☐	☐	☐

3. From your project experience, did you become aware of subject matter in which you felt less than adequately prepared (i.e., subject matter which might be covered in course-work at Tech)?

☐ Yes ☐ No

If "No," skip to Question #17.

14. Did the deficiency indicated in Question #13 lead you to modify your program of study, i.e., to change courses in the program of study on file with the School?

☐ Yes ☐ No

If "No," skip to Question #16.

15. Please describe the modification you made in your program of study.

16. Please indicate the reason that best describes your decision not to modify your program of study.

☐ Impossible to schedule the appropriate class(es) before graduation

☐ Did not feel the deficiency warranted scheduling additional class(es).

☐ Although there was a desire to modify my program of study, I was not allowed to make the change(s) due to School's regulations, constraints or the like.

☐ Did not desire to make change(s).

17. The following list summarizes the range of techniques included in Health Systems coursework. Please indicate which of these techniques were used in your Masters project, and for those techniques you used also indicate the level of preparation you feel you had in them at the time you used them.

	Used in Masters Project	Preparation	
		Insuff.	Sufficient
Health Facility Planning	☐	☐	☐
Computer Programming and Data Processing	☐	☐	☐
Engineering Economy and Economic Decision-making	☐	☐	☐
Facility Layout	☐	☐	☐
Materials Handling	☐	☐	☐
Mathematical Modeling	☐	☐	☐
Optimization Methods	☐	☐	☐
Forecasting	☐	☐	☐
Inventory Management and Control Techniques	☐	☐	☐
Job Analysis and Evaluation	☐	☐	☐
Manpower Scheduling and/or Staffing	☐	☐	☐
Work Scheduling	☐	☐	☐
Methods Analysis and Work Simplification	☐	☐	☐
Time Study	☐	☐	☐
Work Sampling	☐	☐	☐

(Question #17 - cont.)

	Used in Masters project	Preparation Insuff.	Sufficient
Standard Data and/or Predetermined Motion Times	☐	☐	☐
Descriptive Statistics	☐	☐	☐
Estimation and Hypothesis Testing	☐	☐	☐
Quality Control	☐	☐	☐
Simulation	☐	☐	☐
Queueing Theory	☐	☐	☐
Project Management Techniques	☐	☐	☐

18. Please use the remainder of this sheet to make any comments you wish regarding the Masters project concept, your experience with the Masters project, ways to improve project experience, etc.

THANK YOU FOR YOUR COOPERATION!

Appendix 9

Out-of-Department Course Evaluation

SCHOOL OF HEALTH SYSTEMS Non-HS COURSE EVALUATION 1/79

Please complete this form. Your name is requested only to assure that all students are participating in evaluations; data will be handled as if submitted anonymously. PLEASE FEEL FREE TO COMMENT ON ANY QUESTION (on reverse of card).

NAME:	CLASS:	QRTR.:	YR.:
COURSE:	INSTRUCTOR:		GRADE:

1. Using the scale below,
   (a) rate the *course*: _____
   (b) rate the *instructor*: _____
   (c) rate the *agreement* between course content and catalog description of course:

0=very bad, 1=poor, 2=fair, 3=good, 4=very good, 5=excellent

2. Catalog's listed course prerequisites are (check one):
   O necessary and sufficient, or
   O understated*, or
   O overstated*.
   *explain on reverse

Appendix 10

MASTER'S CANDIDATES

EXIT EVALUATION

Directions: For each question, please use the space provided to write in the answers, or check the appropriate boxes (one box per question only). Please answer all questions. We appreciate your answering all questions as fully and accurately as possible. Rest assured that your responses will be handled as if submitted anonymously; the data are for statistical purposes only. All findings will be aggregated so that it will not be possible to identify any individual respondents.

1. Year of birth: _____

2. Sex: ☐ male ☐ female

3. Date of graduation: ____ qtr. ____ year

4. Field of undergraduate major:
   - ☐ engineering
   - ☐ computer science
   - ☐ mathematics
   - ☐ physical sciences
   - ☐ statistics
   - ☐ social sciences
   - ☐ other (specify): _____

5. Graduate degree(s) held (specify): _____

6. Work experience prior to enrollment in School of Health Systems Master's program:

   a. In a health-related organization
      - ☐ none
      - ☐ 1 year or less
      - ☐ 2-4 years
      - ☐ 5 or more years

   b. In a non-health related organization
      - ☐ none
      - ☐ 1 year or less
      - ☐ 2-4 years
      - ☐ 5 or more years

7. Estimated grade point average in Health Systems courses taken:
   - ☐ 3.00 or less
   - ☐ 3.01 to 3.49
   - ☐ 3.50 to 4.00

8. Estimated grade point average in out-of-School courses taken (only while on "full standing"):
   - ☐ 3.00 or less
   - ☐ 3.01 to 3.49
   - ☐ 3.50 to 4.00

9. You
   - ☐ were never on "special standing."
   - ☐ were on "spceial standing" for (specify) ____ quarters, and while on "special standing" took (specify) ____ hours of courses.

0. You
   - ☐ were never on "conditional standing."
   - ☐ were on "conditional standing" for (specify) ____ quarters, and while on "conditional standing" took (specify) ___ hours of courses.

11. Number of quarters on "full standing" (specify): ____

12. Number of hours taken while on "full standing" (specify): ____

13. In terms of your own career aspirations, how would you rate the following employment environments?

	No Interest	*Minimally Desirable*	*Moderately Desirable*	*Highly Desirable*
a. Hospital	☐	☐	☐	☐
b. Nursing home	☐	☐	☐	☐
c. HMO	☐	☐	☐	☐
d. Federal government	☐	☐	☐	☐
e. Consulting firm	☐	☐	☐	☐
f. Local planning agency (e.g., HSA)	☐	☐	☐	☐
g. Hospital management firm	☐	☐	☐	☐

14. How would you rate the job opportunities in each of the following possible employment environments?

	Contracting	*Fairly Constant*	*Expanding Slowly*	*Expanding Rapidly*
a. Hospital	☐	☐	☐	☐
b. Nursing home	☐	☐	☐	☐
c. HMO	☐	☐	☐	☐
d. Federal government	☐	☐	☐	☐
e. Consulting firm	☐	☐	☐	☐
f. Local planning agency (e.g., HSA)	☐	☐	☐	☐
g. Hospital management firm	☐	☐	☐	☐

15. What degree of difficulty are you experiencing/did you experience in finding your first job (after graduation)?

☐ *No difficulty* ☐ *Moderate difficulty*
☐ *Little difficulty* ☐ *Considerable difficulty*

16. How valuable were/are the following resources in finding your initial position upon graduation? (Rank the resources used, giving "1" to the most important, etc.; enter an asterisk for those resources not used.)

___ *Job clearing houses, employment agencies, or executive search firms*
___ *Classified "Help Wanted" ads in journals, newspapers, newsletters, etc.*
___ *Your own classified ad in "Position Wanted" columns*
___ *The Georgia Tech Placement Center*
___ *Placement assistance by the faculty and staff of the School of Health Systems (i.e., through Job Opportunities Board and assistance of Mrs. Ann Bailey, etc.)*
___ *Personal contacts*
___ *Other (specify):* _____

17. To what degree would you say the program of study (and resultant degree) you have completed has prepared you for your chosen career?

☐ *Could not have received better preparation.*
☐ *Preparation has been moderately helpful.*
☐ *Preparation has been very helpful.*
☐ *Preparation has been minimally helpful.*

18. In comparison with other university programs you know of, how would you rate the program of study you have followed?

☐ *I know of no other comparable programs and cannot compare*
☐ *Better than any others*
☐ *The equal of others that I might have enrolled in*
☐ *Not as good*

19. Did the program of study you have completed meet your original expectations/hopes?

☐ *Yes, completely*
☐ *To some extent*
☐ *To a large extent*
☐ *To a very limited extent*

20. How would you characterize the program of study you completed/are completing?

☐ *Too tightly structured; insufficient opportunity to follow up interests*
☐ *Flexible, with sufficient opportunity to follow up some interests*
☐ *Very structured, with only limited opportunity to follow up interests*
☐ *Very flexible, with sufficient opportunity to follow up interests*

21. How would you characterize the Health Systems curriculum for Masters degree students

☐ *Occasionally revised, with little apparent improvement over time*
☐ *Frequently revised, with little apparent improvement over time*
☐ *Occasionally revised, but with significant improvement over time*
Frequently revised, but with significant improvement accompanying each change

22. How did each of the following entities <u>contribute</u> in planning your program of study?

	Extremely Helpful	*Moderately Helpful*	*Somewhat Helpful*	*Did Not Contribute*
a. School director	☐	☐	☐	☐
b. Faculty of school	☐	☐	☐	☐
c. Other Masters degree students	☐	☐	☐	☐

23. How often did you seek advice about your program of study from the following entities?

	Routinely	*Often*	*Occasionally*	*Not at All*
a. School director	☐	☐	☐	☐
b. Faculty of school	☐	☐	☐	☐
c. Other Masters degree students	☐	☐	☐	☐

24. To what extent do you feel the curriculum/policies of the School are responsive to student inputs (e.g., suggestions and recommendations)?

☐ *Very responsive*
☐ *Seldom responsive*
☐ *Moderately responsive*
☐ *Unresponsive*

. How did you first learn of the School of Health Systems Masters program?

/__/ Literature mailed by School
/__/ Posters on college bulletin boards
/__/ Ads in trade journals
/__/ Georgia Tech catalog
/__/ Faculty of another institution
/__/ Health systems professionals
/__/ Health Systems alumni
/__/ Graduate program guidebooks
/__/ Friends (jobs not health-related)
/__/ Other (specify): _____

. How much time elapsed between the time you decided definitely to enter the Masters program and the beginning of your first quarter of coursework as a MSHS student?

/__/ Less than 1 month
/__/ 1-6 months
/__/ 6-12 months
/__/ More than 12 months

. During your initial investigation(s) of the Masters program, how would you rate the interest shown in you as a potential MSHS candidate?

/__/ Essentially none
/__/ Minimal
/__/ Moderate
/__/ High

. How did the following features of the Masters program affect your decision to enter the program?

	Negative Influence	No Influence	Mild Positive Influence	Strong Positiv Influence
. Geographic location of School	/__/	/__/	/__/	/__/
. Flexibility in entering time	/__/	/__/	/__/	/__/
. Education reputation of the School	/__/	/__/	/__/	/__/
. Success of MSHS graduates	/__/	/__/	/__/	/__/
. GRA availability	/__/	/__/	/__/	/__/
. Availability of financial assistance	/__/	/__/	/__/	/__/

. Others (specify): _____

. If there had been a policy such that students entering the Masters program were required to enter (on "full standing") in the Fall Quarter of an academic year, how would this have affected your decision to enter the program?

/__/ Not at all; would have entered program regardless of policy.
/__/ Very small chance that this policy would have prevented entrance.
/__/ Good chance that this policy would have prevented entrance.
/__/ This policy would have prevented entrance.

30. What are your basic reasons for desiring an MSHS degree? Briefly describe.

31. Taking the total experience you have had in the Masters program into consideration, how has this experience affected your recommendation (regarding entering the Masters program) to prospective MSHS candidates?

/__/ *Strong negative*
/__/ *Mild negative effect*
/__/ *Mild positive effect*
/__/ *Strong positive effect*

32. Please list any groupings of subject matter in Health Systems which seem to you to be unnecessarily repetitious.

33. Considering the Health Systems courses you have taken, how has the required effort to attain an "A" grade in the courses varied?

/__/ *Varied widely, primarily due to variation in personal interests/abilities.*
/__/ *Varied widely, independent of personal interests/abilities.*
/__/ *Some variance, related to variation in personal interests/abilities.*
/__/ *Some variance, independent of personal interests/abilities.*

34. Specifically, which Health Systems course required the highest effort level on your part? _____. Which required the second-highest effort? _____. Which required the third-highest effort? _____.

35. What value would you assign to the ratio of effort required in the Health Systems courses you have taken to the effort required in non-School courses?

/__/ *Less than one-half*
/__/ *About one-to-one*
/__/ *About two-to-one*
/__/ *Between one-half and one-to-one*
/__/ *Between one-to-one and two-to-one*
/__/ *More than two-to-one*

36. What value would you assign to the ratio of effort required in the Health Systems courses you have taken to the effort required in your undergraduate coursework?

/__/ *Less than one-half*
/__/ *About one-to-one*
/__/ *About two-to-one*
/__/ *Between one-half and one-to-one*
/__/ *Between one-to-one and two-to-one*
/__/ *More than two-to-one*

37. How would you rate the level of presentation for material contained in the Health Systems courses you have taken?

/__/ *Almost so low as to be insulting to the students' intelligence.*

/__/ *Below what would have been comfortable (i.e., based on educational background)*

/__/ *Well-suited to students' background education.*

/__/ *Above what would have been comfortable.*

/__/ *So high as to make understanding almost impossible, and highly improbable.*

38. How would you rate the consistency among Health Systems courses when it comes to the level of presentation of materials?

/__/ *Very inconsistent between courses*

/__/ *Somewhat inconsistent*

/__/ *Quite consistent*

39. In general, how would you compare the level of presentation in Health Systems courses to the level of presentation in non-School required courses?

/__/ *Much lower* /__/ *Fairly similar* /__/ *Much higher*

/__/ *Somewhat lower* /__/ *Somewhat higher*

40. In general, how would you rate the faculty competence in Health Systems courses?

/__/ *Very low* /__/ *Fair* /__/ *Very high*

/__/ *Low* /__/ *High* /__/ *Excellent*

41. If there are any required non-School courses which you feel could be significantly improved if they were taught within the School, please list them, and give reasons for including them in School offerings.

42. If there are any Health Systems courses you have taken in which the material covered seemed inappropriate (particularly if out-dated) please give the course number and the reason for feeling the material was inappropriate.

43. How do you see Health Systems coursework as being split at present, i.e., between "theory" and "application?"

/__/ *Around 10% theory, 90% application* /__/ *Around 70% theory, 30% application*

/__/ *Around 30% theory, 70% application* /__/ *Around 90% theory, 10% application*

/__/ *Around 50% theory, 50% application* /__/ *Totally application-oriented*

44. In terms of proportions of coursework, how would you like to see material split between "theory" and "application" (e.g., between use of a Medicus methodology versus discussion/study of the underlying concepts)?

/__/ *Around 10% theory, 90% application* /__/ *Around 70% theory, 30% application*

/__/ *Around 30% theory, 70% application* /__/ *Around 90% theory, 10% application*

/__/ *Around 50% theory, 50% application* /__/ *Totally application-oriented*

45. What degree of interest was shown by course instructors (in Health Systems courses) in your learning experience in their courses?

/__/ *Almost no interest shown in experience*

/__/ *Less than the appropriate amount*

/__/ *An appropriate amount of interest*

46. During your Master's project, how much interaction with your faculty advisor did you desire?

/__/ *Minimal interaction* /__/ *Moderate interaction* /__/ *Frequent interaction*

47. During your Master's project, how much interaction with your faculty advisor did you have?

/__/ *Insufficient amount based on my need*

/__/ *About the right amount*

/__/ *More than enough, at the faculty member's request*

/__/ *More than enough I realize now, but at my insistence*

48. How often did you desire to discuss problems in non-School coursework with Health Systems faculty?

/__/ *Almost never* /__/ *Occasionally* /__/ *Very often*

/__/ *Very rarely* /__/ *Frequently*

49. How often did the faculty find time to discuss your non-School coursework problems?

/__/ *Less than desired*

/__/ *As needed*

/__/ *Went out of their way to help*

50. Which of the following factors was most useful to you in terms of finding a good job?

	Almost Irrelevant	Minimally Important	Highly Important	Critical
a. Individual grades in non-School courses	☐	☐	☐	☐
b. Individual grades in School courses	☐	☐	☐	☐
c. Overall GPA in Master's program	☐	☐	☐	☐
d. Performance on Master's project	☐	☐	☐	☐
e. Prior work experience	☐	☐	☐	☐
f. GRA work experience	☐	☐	☐	☐

51. In terms of prerequisites to Health Systems coursework, what is the value of non-School required courses?

☐ Essentially no value
☐ Contribute minimally
☐ Contribute highly
☐ Almost essential

52. If there are any non-School required courses that you feel contribute so little to the Master's program that they should be eliminated as requirements, please list them and include the reason(s) for elimination.

53. If there are any non-School courses that you feel would contribute so significantly to the Master's program that they should be included as required courses, please list them and the reason(s) for inclusion.

54. What percentage of the material covered in ISyE 6734 (O.R.) would you estimate was integrated into Health Systems coursework?

☐ Maybe 10%
☐ From 10% to 30%
☐ From 30% to 50%
☐ From 50% to 70%
☐ From 70% to 90%
☐ More than 90%

55. What percentage of the material covered in ISyE 6739 (Statistics) would you estimate was integrated into Health Systems coursework?

☐ Maybe 10%
☐ From 10% to 30%
☐ From 30% to 50%
☐ From 50% to 70%
☐ From 70% to 90%
☐ More than 90%

56. Did your experience in any courses lead you to change your program of study, i.e., did the taking of, say, Course A lead you to forget about taking, say, Course B and instead take, say, Course C? If so, please give the specifics of this combination of courses and the reason(s) for the change.

57. Considering all coursework taken in your Master's program, what three courses would you describe as contributing the most toward your career goals? (Please list in decreasing order of contribution, i.e., most important first, etc.)

58. Having completed the MSHS degree requirements, are there any courses that, in hindsight, you wish you had included in your program? If so, please give the course number and the reason(s) you did not take the course (e.g., scheduling problems, fear of overloading, etc.)

59. If there are any required Health Systems courses that you feel should be eliminated (as requirements), please give the course number and reason(s) for elimination.

60. If there are subject areas which you feel should be included in the Health Systems curriculum (through courses that might be developed) please list the areas below.

61. If there are subjects which you listed in Question #60 which you feel warrant inclusion in the Master's program as <u>required</u> courses, please list those subjects <u>and</u> suggest which presently-required courses could be eliminated to "make room" for the new courses. (Continue on back if necessary.)

62. Now that you have completed the Master's program, if you thought that an increase in the length of the Master's program (i.e., in number of quarters and/or course-work) would significantly increase the education of MSHS students, how much longer would you have been willing to stay to complete the MSHS program?

/__/ *No longer*
/__/ *One more quarter*
/__/ *Up to two more quarters*
/__/ *Up to three more quarters*
/__/ *Up to four more quarters*
/__/ *As long as it remained profitable*

63. When you were considering entering the School of Health Systems, how long were you willing to spend in getting the Master's degree?

/__/ *No more than one calendar year*
/__/ *No more than five quarters*
/__/ *Up to six quarters*
/__/ *Up to seven quarters*
/__/ *Up to two calendar years*
/__/ *As long as necessary*

64. Please make any comments you wish regarding the process of Master's project selection (e.g., regarding time available, faculty inputs, etc.) here:

65. Given your initial expectations as to what amount of effort would be required in completing your Master's project (i.e., after you had chosen project), how did the actual effort required compare?

/__/ *Did not require even half the effort I expected it would require*
/__/ *Somewhat less effort required than I expected it would require.*
/__/ *Just about the same effort required as I expected.*
/__/ *Somewhat more effort required than I expected it would require.*
/__/ *Nearly twice as much effort was expended than was expected necessary.*
/__/ *More than twice as much effort actually expended than was expected necessary.*

66. When you finally decided on a Master's project, were you satisfied with the topic area and the nature of the project?

/__/ *No, very dissatisfied*
/__/ *Somewhat dissatisfied*
/__/ *Somewhat satisfied*
/__/ *Yes, very satisfied*

67. If you have any suggestions which you believe could improve the experience of completing Master's projects, please include them (continue on back if necessary).

68. While a Master's student, were you ever a Graduate Assistant?

☐ Yes ☐ No

(If answered "No," skip to Question #70)

69. a. How many quarters did you hold a GRA position? _____

b. Did you hold more than one GRA position, i.e., on different projects?

☐ Yes ☐ No

(If answered "No," skip to Question #69 f)

c. Please give the reason(s) for change of GRA positions, and indicate whether or not the change was requested and/or desired by you.

d. What was the nature of the change in GRA positions (considering the last two different positions held)?

☐ From non-sponsored GRA position to sponsored (external site) GRA position ☐ From sponsored (external site) GRA position to non-sponsored GRA position

e. Did you feel, overall, that the change (described in Question #69 d) was an improvement?

☐ Yes ☐ No

(Answer Questions #69 f to #69 j for the last GRA position held.)

f. What type of GRA position did you hold?

☐ Non-sponsored GRA position ☐ Sponsored GRA position (external site)

g. How would you rate the overall GRA experience?

☐ Very dissatisfying ☐ Somewhat satisfying

☐ Somewhat dissatisfying ☐ Very satisfying

h. How would you characterize the following aspects of your GRA position?

		Very Dissatisfying	Somewhat Dissatisfying	Somewhat Satisfying	Very Satisfyi
(i)	Educational value	☐	☐	☐	☐
(ii)	Stimulating, educationally valuable work experience	☐	☐	☐	☐
(iii)	Financial rewards	☐	☐	☐	☐
(iv)	Contact with potential employers	☐	☐	☐	☐

i. How important were the following aspects in your evaluation of a potential GRA assignment?

(continued on next page)

	Not At All Important	Minimally Important	Moderately Important	Very Important
Educational value	☐	☐	☐	☐
Stimulating, educationally valuable work experience	☐	☐	☐	☐
Financial rewards	☐	☐	☐	☐
Contact with potential employers	☐	☐	☐	☐

j. Were there other GRA positions which you would have preferred?

☐ *Yes* ☐ *No*

70. Did you desire to have a GRA position while you were in the Master's program?

☐ *Yes* ☐ *No*

(If answered "No," skip to Question #73)

71. Did you actively pursue GRA assignments?

☐ *Yes* ☐ *No*

(If answered "No," skip to Question #73)

72. Please give the reason(s) that you feel prevented your receiving a GRA position.

73. Please make any comments here regarding GRA assignments, the process used in filling GRA positions, etc.

74. How would you characterize your own financial situation while in the Master's program?

☐ *No shortage of funds* ☐ *Minimal need* ☐ *Substantial need*

75. Did your financial situation while in the Master's program require your taking any position which rewarded you financially, i.e., did you have a job while in Program?

☐ *Yes, very limited part-time work*

☐ *Yes, substantial part-time work* ☐ *No*

76. Did the School of Health Systems arrange for your position/job?

☐ *Yes* ☐ *No*

77. Which option did you follow in your Master's program?

/__/ *The analysis option throughout Master's program*

/__/ *The planning option throughout Master's program*

/__/ *The planning option for a time, but switched to the analysis option after (specify) _____ quarters.*

/__/ *The analysis option for a time, but switched to the planning option after (specify) _____ quarters.*

78. Did you change options while in the Master's program?

/__/ *Yes* /__/ *No*

(If answered "No," skip to Question #80)

79. Please give reason(s) for changing options while in the Master's program.

80. Please feel free to make any additional comments which you feel could be helpful in improving the educational program of the School of Health Systems, particularly for the Master's program.

THANK YOU FOR YOUR COOPERATION

Appendix 11

Cover Letter and HS Alumnus Evaluation Questionnaire

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

December 12, 1979

To the Graduates of the School of Health Systems:

The School of Health Systems has embarked on a self-evaluation of its curricula, and your assistance in this project would be most helpful. We, the faculty and staff of the School, feel that the opinions and experiences of the School's graduates are important in finding ways of improving Health Systems at Georgia Tech. This is not the first occasion for seeking information from our graduates; a 1976 survey of the graduates of the Master's program provided data which indicated certain new directions the School's graduate course-work should take. We look for more useful information as a result of this current evaluation project.

There are two things we would like you to do to assist in our evaluation. First, please complete the enclosed questionnaire which has been designed to obtain the information we need from our graduates. You can return the completed questionnaire in the stamped, pre-addressed envelope attached to the questionnaire.

The second thing you can do is to serve as a "conduit" related to another aspect of the evaluation project.* As can be seen by reviewing the survey form, we have a great interest in what types of job assignments our graduates receive and to what degree the Health Systems academic program contributes to performance. The perceptions of the graduates' immediate supervisors are a second source of valuable information. The School would like to find out how a graduate's performance is perceived and how the educational preparation of that individual--particularly through the School of Health Systems--is seen as relating to this performance. To gather these types of information, a parallel survey is being made of graduates' supervisors.

Unfortunately, it is impossible to "mail direct" to our graduates' supervisors because the School is unaware of their identities. Therefore, we are relying on graduates to transmit survey questionnaires to their supervisors. This is the second part of your participation that we are requesting; that you send the enclosed packet on to your immediate supervisor (i.e., that individual who has responsibility for oversight on your work.) To aid in soliciting the supervisory input, we have enclosed (in the packet) an introductory letter explaining the evaluation project and a questionnaire to be completed. In addition, a stamped, pre-addressed envelope is provided in the packet so that questionnaire return is facilitated. Before sending the packet on to your supervisor--through the mail or by hand, if feasible--we ask that you add your name to the small identification form on the reverse of the packet.

We very much appreciate your assistance in this self-evaluation and believe that the input of our graduates is a key ingredient in School improvement. We are working on a schedule such that we would like to have completed questionnaires back by January 20, 1980.

Thanks very much.

Sincerely,

Harold E. Smalley, Ph.D.
Regents' Professor and Director

*We ask for your participation in the second project activity only if you are employed in a health systems-related position. If you have employment outside the health field, then only the first activity--questionnaire completion--is requested.

EVALUATION QUESTIONNAIRE
(HS Alumnus)

This questionnaire is designed to obtain data on various aspects of the School of Health Systems.* Information obtained from the questionnaire respondents will be used in an aggregate sense only, thus preserving anonymity of responses. Individual responses will be seen only by appropriate members of the Health Systems faculty and staff. If you have any questions about the questionnaire, or the evaluation in general, please call Dr. Tom H. Bowlin, Evaluation Coordinator, at 404-894-4556. Your cooperation is greatly appreciated.

* * * * * * * * * * * * * * *

General Instructions

Following the first three sections of the questionnaire there are several sections containing various statements or questions about which you are asked to express your opinions or feelings. To standardize these expressions, most of the statements and questions are accompanied by a five-point scale on which you are asked to code your answer. Although the specific terms associated with each scale may vary to "fit" a particular question or statement, the scales are basically of two types.

The scale accompanying questions generally looks like this:

None at all 1 2 3 4 5 Very much

On this scale, a "1" indicates "none at all" and a "5" represents "very much." A "3" indicates a moderate amount between the two extremes (i.e., "1" and "5").

The scale accompanying statements generally looks like this:

Strongly disagree 1 2 3 4 5 Strongly agree

On this scale, a "1" indicates "strongly disagree" and a "5" represents "strongly agree." A "3" on this scale can be considered as indicating a neutral feeling about the statement. Numbers less than "3" indicate varying levels of disagreement; numbers greater than "3" indicate varying levels of agreement.

The usual coding scheme will be to circle the number on the scale which best represents your opinion or feeling. Here are two examples:

Question: *How much of what is available at movie theatres is beneficial from an educational point of view?*

None at all 1 (2) 3 4 5 Very much

Statement: *The earth is flat.*

Strongly disagree 1 2 3 4 (5) Strongly agree

The individual answering the question must feel that little of educational value is available through movies, while the response to the statement suggests that the individual knows little about geography!

In each instance, you should mark the answer which best reflects how you feel or what you think. Some questions or statements require an indication of your opinion as it relates to your education, your professional career or matters of a more general nature. Please respond accordingly. Proceed sequentially through the questionnaire, following italicized instructions when encountered. Please do not leave any questions or statements unanswered, except those skipped through following the italicized instructions. Feel free to make any additional comments on the margins or on the back of any of the following pages.

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*The term "School" will refer to both the Program in Health Systems (for our less recent alumni) and the School of Health Systems throughout the questionnaire.

SECTION 1 - Identification

1. Month and Year of Birth: ____ ____ (month year) 2. Sex (check one): /__/ male /__/ female

SECTION 2 - Education

1. Which degree(s) did you receive through the School of Health Systems?

/__/ B.S.
/__/ M.S.H.S.
/__/ Both B.S. and M.S.H.S.

If response was either "B.S." or "Both B.S. and M.S.H.S.," skip to Question 4.

2. What was your undergraduate major? _____

3. When did you complete your undergraduate degree? ____ ____ (month year)

4. Since leaving the School of Health Systems have you pursued further formal education?

/__/ No
/__/ Yes

If response was "No," skip to Question 6.

5. Please describe your education beyond that received through the School of Health Systems.

Degree Program	State of Education Process? Degree Completed	Presently Enrolled	Date of Completion
a. _____	/__/	/__/	____ ____ (month year)
b. _____	/__/	/__/	____ ____ (month year)

6. Please give the date(s) when you completed degree(s) through the School.

-If you obtained a B.S. through the School: ____ ____ (month year)

-If you obtained a M.S.H.S. through the School: ____ ____ (month year)

If you obtained a B.S. degree through the School prior to September 1976 and did not pursue an M.S.H.S. through the School, skip to Question 13.
If you obtained a B.S. degree through the School prior to September 1976 and did pursue an M.S.H.S. through the School, or if you only obtained a M.S.H.S. degree through the School, skip to Question 10.

7. Since September 1976 there have been "options" titled Analysis, Planning, and Premedical in the undergraduate curriculum. The options are basically defined as separate sets of electives, such that a student chooses from these electives to complete his/her program of study in one of these three areas. The School has never formally asked students to specify which option they were following while in the School; for many reasons the students may change options during the course of their education. Why did you choose to follow (i.e., graduate under) the particular option you did (check one only)?

/__/ Because I intended to follow a career path associated with that option.
/__/ Because it was easier to satisfy graduation requirements with that option.
/__/ For this reason (specify): _____

SECTION 2 - Education (Continued)

8. Which option did you follow (i.e., graduate under)?

/__/ Analysis Option
/__/ Planning Option
/__/ Premedical Option

If response was "Planning Option" and you did not pursue M.S.H.S. through School, skip to SECTION 3 - Employment.
If response was "Planning Option" and you did pursue M.S.H.S. through School, skip to Question 10.

9. The following courses have been included in the Planning Option at one time or another. Please check all courses that you took from this group while in the B.S. Program.

/__/ HS 3332 - Health Care Cost Analysis
/__/ HS 3341 - Health Systems Planning
/__/ HS 3780 - Introduction to Urban Engineering
/__/ HS 4021 - Community Health Problems
/__/ HS 4141 - Health Facility Planning (1976-77 and earlier)
/__/ CP 1100 - Introduction to City Planning
/__/ CP 6000 - Urban Community Planning
/__/ ECON 3501 - Political Economy
/__/ ECON 4310 - Public Finance
/__/ ECON 4330 - Regional Economics
/__/ ECON 4331 - Urban Economics
/__/ ICS 4334 - Health Information Processing
/__/ ISYE 4028 - Introduction to Feedback Dynamics
/__/ ISYE 4044 - Simulation
/__/ ISYE 4053 - Introduction to Socioeconomic Systems Analysis
/__/ ISYE 4056 - Technological Forecasting
/__/ ISYE 4157 - Evaluation of Complex Service Systems
/__/ ISYE 4726 - Engineering Economic Analysis in the Public Sector
/__/ MGT 4290 - Public Administration
/__/ POL 3217 - State and Local Government
/__/ POL 3220 - Urban Government and Political Problems
/__/ POL 3221 - Urban Political Problems
/__/ POL 3250 - Public Administration and Public Policy
/__/ SOC 3310 - Demographic Analysis

If you did not pursue the M.S.H.S. through the School, skip to SECTION 3 - Employment.

10. Which option did you follow in the M.S.H.S. program (i.e., graduate under)?

/__/ Analysis Option

/__/ Planning Option

If response was "Planning Option," skip to Question 12.

11. The following courses have been included in the Master's Planning Option at one time or another. Please check all courses that you took from this group while in the Master's Program.

/__/ HS 3780 - Introduction to Urban Engineering

/__/ HS 4021 - Community Health Problems

/__/ HS 6340 - Health Planning Techniques

/__/ HS 6341 - Health Systems Planning

/__/ CP 6000 - Urban Community Planning

/__/ CP 6060 - State and Regional Planning

/__/ CP 6070 - Public Works Planning I

/__/ ECON 6001 - Macroeconomic Analysis and Policy

/__/ ECON 6005 - Cost Benefit Analysis

/__/ ECON 6320 - Managerial Economics

/__/ ECON 6330 - Regional Economics

/__/ ECON 6500 - Nonmarket Processes and Economic Decisions

/__/ ISYE 4044 - Simulation

/__/ ISYE 4053 - Introduction to Socioeconomic Systems Analysis

/__/ ISYE 4056 - Technological Forecasting

/__/ ISYE 4157 - Evaluation of Complex Service Systems

/__/ ISYE 4726 - Engineering Economic Analysis in the Public Sector

/__/ ISYE 4757 - Technology Assessment

/__/ ISYE 6806 - Introduction to Feedback Dynamics

/__/ MGT 4290 - Public Administration

/__/ MGT 6000 - Management Accounting and Control

/__/ MSCI 6051 - Computer Simulation of Management Problems

/__/ POL 6255 - Governmental Aspects of Planning

/__/ SOC 3340 - Urban Ecology and Demography

/__/ SOC 6375 - Planning for People

12. Why did you choose to follow the particular option you did when you were in the M.S.H.S. program (check one only)?

/__/ Because I intended to follow a career path associated with that option.

/__/ Because it was easier to satisfy graduation requirements with that option.

/__/ For this reason (specify): _____

_____

_____

Skip to SECTION 3 - Employment.

SECTION 2 - Education (Continued)

13. Did you follow the premedical/predental program of study?

/__/ Yes

/__/ No

SECTION 3 - Employment

1. Please complete the requested information for each full-time position that you have held since your graduation from the School of Health Systems. Start with your initial position and continue in chronological order to your most recent (and most likely, current) position. If you run out of space, use the back of this page.

a. Name of Organization: _____

Address: _____
City State

Dates Employed: from ____ ____ to ____ ____
month year month year

Title of Position: _____

Primary Responsibilities: _____

_____

b. Name of Organization: _____

Address: _____
City State

Dates Employed: from ____ ____ to ____ ____
month year month year

Title of Position: _____

Primary Responsibilities: _____

_____

c. Name of Organization: _____

Address: _____
City State

Dates Employed: from ____ ____ to ____ ____
month year month year

Title of Position: _____

Primary Responsibilities: _____

_____

d. Name of Organization: _____

Address: _____
City State

Dates Employed: from ____ ____ to ____ ____
month year month year

Title of Position: _____

Primary Responsibilities: _____

_____

SECTION 3 - Employment (Continued)

e. Name of Organization: _____

Address: _____
City State

Dates Employed: from _____ _____ to _____ _____
month year month year

Title of Position: _____

Primary Responsibilities: _____

_____

2. Upon graduation (i.e., leaving the School), did you look for a position which would utilize the health systems education you had received?

/__/ Yes
/__/ No

If response was "Yes," skip to Question 5.

3. Have you ever sought a position specifically to match your health systems educational qualifications?

/__/ Yes
/__/ No

If response was "Yes," skip to Question 6.

4. Would you explain why a health systems-related position has not been an objective of yours?

Skip to Question 6.

5. Identify which positions listed in Question 1 are health systems oriented.

/__/ Position described in (a.)
/__/ Position described in (b.)
/__/ Position described in (c.)
/__/ Position described in (d.)
/__/ Position described in (e.)

6. *(Optional)* Could you indicate the range in which your (a) initial salary (i.e., after leaving the School) and (b) your current salary fall?

Initial Salary	Current Salary
/__/ Less than $10,000	/__/ Less than $10,000
/__/ $10,000 - $11,999	/__/ $10,000 - $11,999
/__/ $12,000 - $13,999	/__/ $12,000 - $13,999
/__/ $14,000 - $15,999	/__/ $14,000 - $15,999
/__/ $16,000 - $17,999	/__/ $16,000 - $17,999

SECTION 3 - Employment (Continued)

Initial Salary	Current Salary
/__/ $18,000 - $19,999	/__/ $18,000 - $19,999
/__/ $20,000 - $21,999	/__/ $20,000 - $21,999
/__/ $22,000 - $23,999	/__/ $22,000 - $23,999
/__/ $24,000 - $25,999	/__/ $24,000 - $25,999
/__/ $26,000 - $27,999	/__/ $26,000 - $27,999
/__/ $28,000 - $29,999	/__/ $28,000 - $29,999
/__/ $30,000 or more	/__/ $30,000 or more

If you did not pursue M.S.H.S. degree through School, skip to Question 8.

7. Before enrolling in the Master's Program, how much work experience did you have...

   a. In health-related organizations? _____years.

   b. In non-health-related organizations? _____years.

8. Do you plan to work in the health systems field in the future?

   /__/ Yes
   /__/ No
   /__/ Uncertain

9. We would like to find out what part of your present position involves technical tasks, and what part involves management tasks. (We assume that any position can be "split" into these two categories of tasks.) Please split 100% between the two areas, to reflect the mixture of tasks in your position.

   Management Tasks = _____%

   Technical Tasks = _____%

   (Total should be = 100%)

10. Could you please provide the name, etc., of the supervisor to whom you are sending the packet containing the supervisory questionnaire?

    Supervisor's Name: _____

    Address: _____

    _____

    _____

    City State Zip Code

    (If available) Business Telephone: _____

SECTION 4

1. To what extent has the knowledge you acquired in the School facilitated your ability to perform your present job?

   Not at all 1 2 3 4 5 Very Much

2. To what extent did your field training experience facilitate your ability to perform your present health systems job?

   Not at all 1 2 3 4 5 Very Much

SECTION 4 (Continued)

3. How much confidence do you have, as a result of your educational experience, in your ability to recognize problems and structure solutions?

   None at all 1 2 3 4 5 Very Much

4. To what extent have your efforts resulted in reducing costs, or increasing revenue, in the operation of your organization?

   Not at all 1 2 3 4 5 Very Much

5. To what extent have your efforts increased the efficiency of your organization's delivery of services?

   Not at all 1 2 3 4 5 Very Much

6. To what extent is your position as a health systems practitioner justified from the standpoint of cost-benefit?

   Not at all 1 2 3 4 5 Very Much

7. How satisfied is your employer with the quality of your work?

   Not at all 1 2 3 4 5 Very Much

8. How satisfied are you with the quality of your work?

   Not at all 1 2 3 4 5 Very Much

9. To what extent are you satisfied with your decision to pursue a career in the health systems field?

   Not at all 1 2 3 4 5 Very Much

10. How satisfied are you with the general working atmosphere of your organization?

    Not at all 1 2 3 4 5 Very Much

11. How much potential is there for your advancement in your organization?

    None at all 1 2 3 4 5 Very Much

12. My superiors are very interested in my recommendations and plans.

    Strongly Disagree 1 2 3 4 5 Strongly Agree

13. My health systems talents are utilized to influence major policy decisions rather than minor operational problems.

    Strongly Disagree 1 2 3 4 5 Strongly Agree

14. My organization utilizes the systems approach when addressing a problem.

    Strongly Disagree 1 2 3 4 5 Strongly Agree

SECTION 5

1. Following are selected subject areas and techniques that are covered in the School of Health Systems. For each one, please indicate both (a) the extent of your educational preparation in that area,* and (b) the utility of that subject matter in your actual work. (A response of "1" indicates no preparation and no utility while a "5" indicates maximum preparation and maximum utility.)

Subject Areas	Preparation	Utility
Accounting	1 2 3 4 5	1 2 3 4 5
Economics	1 2 3 4 5	1 2 3 4 5

*If you completed both B.S. and M.S.H.S. degrees, mark the "Preparation" column with a "B" on the digit representing preparation obtained at the undergraduate level, and an "M" on the digit representing graduate preparation.

SECTION 5 (Continued)

Subject Areas	Preparation	Utility
Health Systems		
a. General Orientation to the Health Field	1 2 3 4 5	1 2 3 4 5
b. Health Issues, Problems and Needs	1 2 3 4 5	1 2 3 4 5
c. Hospital Functions and Organization	1 2 3 4 5	1 2 3 4 5
d. Non-hospital Components of the Health Care System	1 2 3 4 5	1 2 3 4 5
e. Health Systems Analysis Techniques	1 2 3 4 5	1 2 3 4 5
Information Systems	1 2 3 4 5	1 2 3 4 5
Probability and Statistics	1 2 3 4 5	1 2 3 4 5
Psychology and Sociology	1 2 3 4 5	1 2 3 4 5
Techniques		
Computer Programming and Data Processing	1 2 3 4 5	1 2 3 4 5
Engineering Economy and Economic Decision-making	1 2 3 4 5	1 2 3 4 5
Cost Accounting	1 2 3 4 5	1 2 3 4 5
Health Facility Planning	1 2 3 4 5	1 2 3 4 5
Facility Layout	1 2 3 4 5	1 2 3 4 5
Materials Handling	1 2 3 4 5	1 2 3 4 5
Mathematical Modeling	1 2 3 4 5	1 2 3 4 5
Optimization Methods	1 2 3 4 5	1 2 3 4 5
Forecasting	1 2 3 4 5	1 2 3 4 5
Inventory Management and Control Techniques	1 2 3 4 5	1 2 3 4 5
Job Analysis and Evaluation Techniques	1 2 3 4 5	1 2 3 4 5
Manpower Scheduling	1 2 3 4 5	1 2 3 4 5
Work Scheduling	1 2 3 4 5	1 2 3 4 5
Methods Analysis and Work Simplification	1 2 3 4 5	1 2 3 4 5
Time Study	1 2 3 4 5	1 2 3 4 5
Work Sampling	1 2 3 4 5	1 2 3 4 5
Standard Data	1 2 3 4 5	1 2 3 4 5
Predetermined Motion Times	1 2 3 4 5	1 2 3 4 5
Descriptive Statistics	1 2 3 4 5	1 2 3 4 5

SECTION 5 (Continued)

Techniques	Preparation					Utility				
Estimation and Hypothesis Testing	1	2	3	4	5	1	2	3	4	5
Bivariate Analysis	1	2	3	4	5	1	2	3	4	5
Multivariate Analysis	1	2	3	4	5	1	2	3	4	5
Project Management Techniques	1	2	3	4	5	1	2	3	4	5
Quality Control	1	2	3	4	5	1	2	3	4	5
Simulation	1	2	3	4	5	1	2	3	4	5
Queuing Theory	1	2	3	4	5	1	2	3	4	5
Staffing	1	2	3	4	5	1	2	3	4	5
Systems Analysis	1	2	3	4	5	1	2	3	4	5
Decision Theory	1	2	3	4	5	1	2	3	4	5
Sampling	1	2	3	4	5	1	2	3	4	5
Project Evaluation	1	2	3	4	5	1	2	3	4	5
Decision Analysis	1	2	3	4	5	1	2	3	4	5
Group Consensus/Decision-Making Techniques	1	2	3	4	5	1	2	3	4	5
Survey Instrument Design	1	2	3	4	5	1	2	3	4	5
Health Care Needs Assessment	1	2	3	4	5	1	2	3	4	5
Health Status Measurement	1	2	3	4	5	1	2	3	4	5
Quality of Care Measurement	1	2	3	4	5	1	2	3	4	5
Accessibility of Care Measurement	1	2	3	4	5	1	2	3	4	5

2. For each of the following types of managerial problems, please estimate both (a) the extent of your educational preparation in addressing that type of problem, and (b) the usefulness of some prior exposure in an academic setting to that problem area in meeting the actual requirements of your job.

Managerial Problems	Preparation					Utility				
Improving Work Methods	1	2	3	4	5	1	2	3	4	5
Management of Information	1	2	3	4	5	1	2	3	4	5
Job Analysis and Evaluation	1	2	3	4	5	1	2	3	4	5
Employee Motivation and Compensation	1	2	3	4	5	1	2	3	4	5
Anticipating Future Requirements	1	2	3	4	5	1	2	3	4	5
Inventory Management and Control	1	2	3	4	5	1	2	3	4	5
Facilities Design and Space Utilization	1	2	3	4	5	1	2	3	4	5
Costing and Economic Evaluation	1	2	3	4	5	1	2	3	4	5
Resource Allocation	1	2	3	4	5	1	2	3	4	5
Staffing and Scheduling	1	2	3	4	5	1	2	3	4	5
Personnel Administration	1	2	3	4	5	1	2	3	4	5
Planning Health Facilities	1	2	3	4	5	1	2	3	4	5

SECTION 5 (Continued)

Managerial Problems	Preparation					Utility				
Financial Management and Control	1	2	3	4	5	1	2	3	4	5
Project Management	1	2	3	4	5	1	2	3	4	5
Cost Containment	1	2	3	4	5	1	2	3	4	5
Compliance with Regulatory Requirements	1	2	3	4	5	1	2	3	4	5

3. The majority of useful information obtained from the School was obtained in the classroom setting.

   Strongly Disagree 1 2 3 4 5 Strongly Agree

4. My field training was very helpful as an introduction to the practical application of knowledge and techniques gained in Health Systems courses.

   Strongly Disagree 1 2 3 4 5 Strongly Agree

5. Are there any subject areas and/or techniques and/or managerial problem areas not covered in the School of Health Systems that you feel should have been covered?

   /__/ Yes
   /__/ No

   If "Yes," please describe them.

SECTION 6

1. In general, how satisfied were you with the education provided to you by the School of Health Systems?

   Not at all 1 2 3 4 5 Very Satisfied

2. Do you feel that the faculty of the School of Health Systems was attuned to contemporary issues in the field of health systems?

   Not at all 1 2 3 4 5 Very Much

3. From your present knowledge of the health field, to what extent do you discern a need for health systems practitioners?

   None at all 1 2 3 4 5 Very Great

If your present position is not health systems-related, this completes the questions. Thanks for your cooperation!

SECTION 6 (Continued)

4. To what extent do you feel the School of Health Systems prepared you for your health systems career?

   Not at all 1 2 3 4 5 Very Much

5. Based upon impressions you developed during your health systems educational preparation, to what extent was the health field environment similar to your expectations of it?

   Not at all 1 2 3 4 5 Very Much

6. To what degree did School personnel assist you in obtaining your initial health systems job?

   Not at all 1 2 3 4 5 Very Much

7. How great do you believe the demand will be for health systems practitioners within the next five years?

   None at all 1 2 3 4 5 Very Great

THANKS FOR YOUR COOPERATION!

Appendix 12

Cover Letter and Supervisor Evaluation Questionnaire

GEORGIA INSTITUTE OF TECHNOLOGY
ATLANTA, GEORGIA 30332

SCHOOL OF HEALTH SYSTEMS
COLLEGE OF ENGINEERING

(404) 894-4550

December 12, 1979

To the Supervisor:

We are writing you as the superior to one of our School's graduates, requesting that you participate in one aspect of a self-evaluation of the School of Health Systems at Georgia Tech. (The graduate to whom we refer is identified on the packet in which this letter arrived.) We, the faculty and staff of the School, feel that the opinions of our graduates' supervisors are useful in suggesting ways of improving the Health Systems curricula. This is not the first occasion for seeking inputs from such individuals; a similar survey in 1976 provided data which suggested certain new directions in the School's coursework. We look forward to more helpful information as a result of this current evaluation project.

An important part of the evaluation involves your perception as to the extent to which the graduate's Health Systems education at Georgia Tech prepared him/her for the position they hold in your organization and your assessment of their performance in that position. Please complete the enclosed questionnaire which has been designed to acquire the information we need while minimizing the required time and effort on your part. To facilitate the return of the completed questionnaire, a stamped, pre-addressed envelope has been attached to the questionnaire and should be used.

We very much appreciate your assistance in this self-evaluation and believe that the input you provide will be a key ingredient in School improvement. Because of our schedule, we would like to have completed questionnaires back by January 20, 1980.

Thanks very much.

Sincerely,

Harold E. Smalley, Ph.D.
Regents' Professor and Director

TB/bw

Enclosures

EVALUATION QUESTIONNAIRE
(Supervisor)

This questionnaire has been designed to obtain information from the supervisor of a graduate of the School of Health Systems, Georgia Institute of Technology. The information obtained from the questionnaire respondents will be used in an aggregate sense only, thus preserving anonymity of responses. Individual responses will be seen only by appropriate members of the Health Systems faculty and staff. If you have any questions about the questionnaire, or the evaluation in general, please call Dr. Tom H. Bowlin, Evaluation Coordinator, at 404-894-4556. Your cooperation is greatly appreciated.

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General Instructions

Following the first two sections of the questionnaire, there are several sections containing various statements or questions about which you are asked to express your opinions or feelings. To standardize these expressions, most of the statements and questions are accompanied by a five-point scale on which you are asked to code your answer. Although the specific terms associated with each scale may vary to "fit" a particular question or statement, the scales are basically of two types.

The scale accompanying questions generally looks like this:

None at all 1 2 3 4 5 Very much

On this scale, a "1" indicates "none at all" and a "5" represents "very much." A "3" indicates a moderate amount between the two extremes (i.e.,"1" and "5").

The scale accompanying statements generally looks like this:

Strongly disagree 1 2 3 4 5 Strongly agree

On this scale, a "1" indicates "strongly disagree" and a "5" represents "strongly agree." A "3" on this scale can be considered as indicating a neutral feeling about the statement. Numbers less than "3" indicate varying levels of disagreement; numbers greater than "3" indicate varying levels of agreement.

The usual coding scheme will be to circle the number on the sacle which best represents your opinion or feeling. Here are two examples:

Question: How much of what is available for viewing at movie theatres is beneficial from an educational point of view?

None at all 1 (2) 3 4 5 Very much

Statement: The earth is flat.

Strongly disagree 1 2 3 4 (5) Strongly agree

The individual answering the question must feel that little of education value is available through movies, while the response to the statement suggests that the individual knows little about geography!

In each instance, you should mark the answer which you think best reflects how you feel or what you think. Some questions or statements require an indication of your opinion as it relates to your education, your professional career or matters of a more general nature. Please respond accordingly. In every instance, be sure to mark an answer. Please do not leave any questions or statements unanswered, and feel free to make any additional comments on the margins or on the back of any of the following pages.

SECTION 1 - Identification

1. Please describe the position you presently hold.

   Name of Organization: _____

   Address: _____
   City State

   Dates Employed: from ____ ____ to ____ ____
   month year month year

   Title of Position: _____

   Primary Responsibilities: _____

   _____

2. Month and Year of Birth: ____ ____
   month year

3. Sex (check one): /__/ Male
   /__/ Female

SECTION 2 - Background

1. How many years have you been with the organization in which you are presently employed? _____years

2. How many years have you been in the position that you presently occupy? _____years

3. How many years of experience do you have in the health field? _____years

4. Please describe your formal education (beyond high school) in chronological order.

Institution, Degree Sought, Major	State of Education Process? Degree Completed	Presently Enrolled	Date of Completion
a. _____	/__/	/__/	____ ____ month year
b. _____	/__/	/__/	____ ____ month year
c. _____	/__/	/__/	____ ____ month year
d. _____	/__/	/__/	____ ____ month year

5. How long have you been the supervisor for the individual around whom this questionnaire is centered (i.e., the person named on the label attached to the envelope in which the questionnaire arrived)? _____months

6. How familiar are you with the individual's work?

   Not at all 1 2 3 4 5 Very familiar

SECTION 3

1. At the time of his/her initial contact with you, to what extent did the Health Systems graduate exhibit an adequate knowledge of the health field?

   Not at all 1 2 3 4 5 Very Much

SECTION 3 (Continued)

2. The performance of the employee under consideration indicates that his/her technical competence is:

   Poor 1 2 3 4 5 Excellent

3. The Health Systems graduate exhibits knowledge of methods and techniques required by his/her job.

   Strongly Disagree 1 2 3 4 5 Strongly Agree

4. The Health Systems graduate exhibits real-world, problem solution orientation and attitudes.

   Strongly Disagree 1 2 3 4 5 Strongly Agree

5. To what degree did the graduate's educational preparation satisfy the actual requirements of his/her job?

   Not at all 1 2 3 4 5 Very Much

6. Was the Health Systems graduate better prepared to perform his/her job in your organization than an individual with similar technical skills but without previous exposure to the health field?

   Not at all 1 2 3 4 5 Very Much So

7. Has the employee so far filled the need for which he/she was hired?

   Not at all 1 2 3 4 5 Very Much So

8. To what extent did the efforts of the graduate result in reducing costs, or increasing revenue, in the operation of your organization?

   Not at all 1 2 3 4 5 Very Much

9. To what extent have the efforts of the graduate increased the efficiency of your organization's delivery of services?

   Not at all 1 2 3 4 5 Very Much

10. To what extent have the skills and knowledge of the Health Systems graduate been used to influence major policy decisions rather than applied to minor operational problems?

    Not at all 1 2 3 4 5 Very Much

11. To what extent have the graduate's plans and recommendations been implemented?

    Not at all 1 2 3 4 5 Very Much

12. To what extent do you consider the employee's position to be justified from a cost-benefit standpoint?

    Not at all 1 2 3 4 5 Very Much

13. Does the graduate seem confident in his/her ability to tackle new problems?

    Not at all 1 2 3 4 5 Very Much So

14. Does the Health Systems graduate perform well without supervision?

    Not at all 1 2 3 4 5 Very Much So

15. How satisfied are you with the graduate's quality of output?

    Not at all 1 2 3 4 5 Very Satisfied

16. How satisfied are you with the graduate's oral communication proficiency?

    Not at all 1 2 3 4 5 Very Much So

SECTION 3 (Continued)

17. How satisfied are you with the graduate's written communication proficiency?

Not at all 1 2 3 4 5 Very Satisfied

18. To what extent are you satisfied with the graduate's interpersonal relations?

Not at all 1 2 3 4 5 Very Much

19. Does the Health Systems graduate under consideration fit well in your organization?

Not at all 1 2 3 4 5 Very Well

SECTION 4

1. Following are selected subject areas that are covered in the curricula of the School of Health Systems. For each one, estimate both (a) the extent of the employee's preparation in that area, and (b) the utility of that subject matter in the employee's job. (A response of "1" indicates no preparation and no utility while a response of "5" indicates maximum preparation and maximum utility.)

Subject Areas	Preparation					Utility				
Accounting	1	2	3	4	5	1	2	3	4	5
Economics	1	2	3	4	5	1	2	3	4	5
Health Systems										
a. General Orientation to the Health Field	1	2	3	4	5	1	2	3	4	5
b. Health Issues, Problems, and Needs	1	2	3	4	5	1	2	3	4	5
c. Hospital Functions and Organization	1	2	3	4	5	1	2	3	4	5
d. Non-hospital Components of the Health Care System	1	2	3	4	5	1	2	3	4	5
e. Health Systems Analysis Techniques	1	2	3	4	5	1	2	3	4	5
Information Systems	1	2	3	4	5	1	2	3	4	5
Probability ane Statistics	1	2	3	4	5	1	2	3	4	5
Psychology and Sociology	1	2	3	4	5	1	2	3	4	5

2. For each of the following types of managerial problems, please estimate both (a) the extent of the graduate's educational preparation in addressing that type of problem, and (b) the usefulness of some prior exposure in an academic setting to that problem area in meeting the actual requirements of the graduate's job.

Managerial Problems	Preparation					Utility				
Improving Work Methods	1	2	3	4	5	1	2	3	4	5
Management of Information	1	2	3	4	5	1	2	3	4	5
Job Analysis and Evaluation	1	2	3	4	5	1	2	3	4	5
Employee Motivation and Compensation	1	2	3	4	5	1	2	3	4	5
Anticipating Future Requirements	1	2	3	4	5	1	2	3	4	5
Inventory Management and Control	1	2	3	4	5	1	2	3	4	5

SECTION 4 (Continued)

Managerial Problems	Preparation					Utility				
Facilities Design and Space Utilization	1	2	3	4	5	1	2	3	4	5
Costing and Economic Evaluation	1	2	3	4	5	1	2	3	4	5
Resource Allocation	1	2	3	4	5	1	2	3	4	5
Staffing and Scheduling	1	2	3	4	5	1	2	3	4	5
Personnel Administration	1	2	3	4	5	1	2	3	4	5
Planning Health Facilities	1	2	3	4	5	1	2	3	4	5
Financial Management and Control	1	2	3	4	5	1	2	3	4	5
Project Management	1	2	3	4	5	1	2	3	4	5
Cost Containment	1	2	3	4	5	1	2	3	4	5
Compliance with Regulatory Requirements	1	2	3	4	5	1	2	3	4	5

3. Are there any subject areas and/or managerial problem areas not previously listed that you feel should be incorporated into the School of Health Systems curricula?

/__/ Yes

/__/ No

If "Yes," please describe them.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

SECTION 5

1. From your present knowledge of the health field, to what extent do you discern a need for health systems practitioners?

None at all 1 2 3 4 5 Very Great

SECTION 5 (Continued)

2. Do you believe that there will be an increase in the demand for health systems practitioners within the next five years?

   Not at all 1 2 3 4 5 Very Much So

3. How familiar are you with Georgia Tech's School of Health Systems?

   Not at all 1 2 3 4 5 Very Familiar

4. In general, were the academic attributes of the Health Systems graduate what you expected?

   Not at all 1 2 3 4 5 Very Much

5. If the situation came up, I would hire another graduate of the School of Health Systems.

   Strongly Disagree 1 2 3 4 5 Strongly Agree

THANK YOU FOR YOUR COOPERATION!

Appendix 13

STUDENT CRITIQUES OF H.S. COURSES

(January 1973 - December 1979)

An Analysis by:

D. Z. Cowan
A. E. Mullins
P. W. Russell
H. E. Smalley

School of Health Systems

Georgia Institute of Technology

Atlanta, Georgia

June 1980

STUDENT CRITIQUES OF H.S. COURSES

This study of student critiques of Health Systems courses covers seven years from January 1973 (when the first H.S. course was offered) through December 1979. During these 28 academic quarters, 171 regular H.S. course sections were conducted, exclusive of seminars, proposal courses, field training, project courses, conference courses, etc., and 2236 student critiques of 163 course offerings were available for inclusion in this study.

Purposes

The primary purpose of this study is to provide information useful to individual faculty members in their continuing attempts to improve their teaching and their courses. Secondary purposes are to provide information useful to the H.S. faculty as a group in future attempts to improve the quality of the H.S. instructional program; to provide data for annual reports to the Bureau of Health Manpower, sponsor of the training project supporting this academic program; and to establish a data base for follow-on analyses of student opinion.

Method

As a matter of School policy and with virtually complete cooperation from the H.S. faculty and the H.S. student body, every section of every regular H.S. course is critiqued by the enrolled students each quarter. The instrument used to measure student opinion was designed by a committee of the Student Government Association and is shown on the following two pages of the present report.

This form was distributed to the students in each course section during a regular class meeting near the end of the quarter and before grades were published. An attempt was made to protect the anonymity of the respondents, and all completed critiques were submitted to the H.S. Education Secretary for summarizing. An example of such a summary is shown on the aforementioned instrument.

EVALUATION QUESTIONNAIRE

COURSE NUMBER 6351 LaPatra (12) QUARTER Fall, 1978

The purpose of this questionnaire is to help improve instruction. Indicate your rating on each of the scaled items by a check (✓) at the appropriate point on the scale. If you feel that you have no basis for a rating on a particular characteristic, simply omit that item.

I. GENERAL CONDUCT AND ORGANIZATION OF THE COURSE

1. Level of presentation

		1	7	3		1
Too Low						Too High

2. Organization of course material.

		2	2	3	3	2
Poor						Excellent

3. Rate of coverage.

		2	6	4		
Too Slow						Too Fast

4. Use of examples.

		1	7	2	2	
Too Few						Too Many

II. HOMEWORK

1. Quantity required.

		1	6	3	1	1
Too Little						Too Much

2. Average difficulty of assignments.

			3	2	2	
Too Easy						Too Hard

3. Benefit of homework in learning the material.

			1	3	5	3
None						Very Helpful

4. Review by instructor.

			2	2	5	3
None						Thorough

III. QUIZZES

1. Number.

	1	1	8	1		
Too Few						Too Many

2. Were the questions representative of material covered?

	1		1	2	6	2
Never						Always

3. Length.

			6	3	3	
Too Short						Too Long

4. Were they returned within a reasonable time?

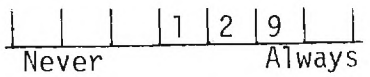
			2		4	6
Never						Always

5. Did quiz grades truly reflect your performances on quizzes?

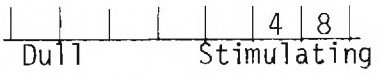
		1	4	1	3	3
Never						Always

IV. INSTRUCTOR-STUDENT RELATIONSHIPS

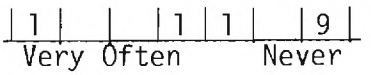
1. Did instructor encourage student participation in class?



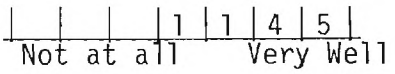
2. Did he stimulate thinking?



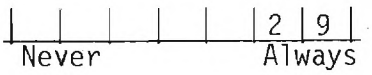
3. Did he tend to belittle students?



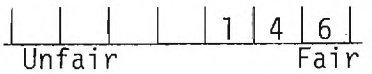
4. Could you communicate with the instructor?



5. Was he readily available for help outside of class?



6. Was he fair and impartial in his dealings with students?



V. MISCELLANEOUS

1. Did the instructor display any annoying mannerisms of speech or other behavior which distracted you in class?_____ If so, please describe.

Yes x 0

No x 12

2. Please feel free to comment in this space on other characteristics or aspects of the instructor of course.

(Responses were tablulated but are not included in the present report.)

VI. OVERALL RATING

Please give your opinion of the instructor's overall teaching effectiveness. Circle the appropriate description:

0	1	2	3	4	5	
VERY BAD	POOR	FAIR	GOOD	VERY GOOD	EXCELLENT	
0	0	0	2	4	6	= 12
0 +	0 +	0 +	6 +	16 +	30	= 52
					52 ÷ 12	= 4.33

The summary and the individual critiques were transmitted to the respective faculty members for their reviews and then deposited in the permanent historical files of the School. A copy of each summary was sent to the School Director for his use as chairman of the faculty; for other appropriate academic and administrative uses; and for reference in annual reports to the Dean, to other appropriate institutional officials, and to the training project sponsor.

Utilizing the "Overall Rating" of Part VI of the critique summary, a numberical scale was assigned, as follows:

0 = very bad,
1 = poor,
2 = fair,
3 = good,
4 = very good, and
5 = excellent.

The sum of the product of each scale value and its frequency produced a "first moment" which, when divided by the number of respondents, yielded a weighted average score for each course section. This score, "4.33" in the example, was calculated for each of the 163 courses critiqued, and the resulting scores were tabulated for each academic quarter, by course number and by instructor. The master data tabulation is on file in the School of Health Systems.

Course Numbers

Over the seven years since the H.S. academic program was initiated, certain changes were made in the numbering of H.S. courses. These changes included new numbers for course modifications, teaching courses under special-problem or topics numbers, and an institutional change from a three-digit to a four-digit numbering scheme. In order to promote understanding and to facilitate the analyses of the present study, all previous H.S. course numbers were renumbered to correspond with the current course numbers as given in the 1979-80 Catalog, as follows:

Current Number	Previous Numbers	Number of Offerings	Current Number	Previous Numbers	Number of Offerings
2011	201	34	4351		3
3011	301	16	4765	4351	6
3021	302	11	6001		5
3115	311,3111,3972	7	6231		4
3116	312,3121	10	6331		4
3117	313,3131,4131	11	6332		4
3118	411,4141	8	6333	8163	3
3211	321	11	6340	8162	3
3332		2*	6341		4
3341		2	6351		5
3351	351	10	6765	ISyE 6765	5
4021		3			

Total Offerings = 171
No Critiques = - 8
Courses Critiqued = 163

*H.S. 3332 was taught in different parts by two different instructors and is listed here as two offerings.

Course Instructors

During the 28 academic quarters covered by the present study, 22 different individuals have been utilized on the H.S. instructional staff. These instructors are named below in the order of the number of regular courses taught:

Name	Courses	Name	Courses
Fagin	24	Sayford	4
Kay	22	Aft	2
Myrick	19	Sheats	2
Thomason	18	Smith	2
Bowlin	15	Caswell	1
Watt	14	Emerzian	1
LaPatra	14	Goodman	1
Smalley	11	Mathews	1
Pittman	7	Neidell	1
Esogbue	6	Wallace	1
Leonard	5	Bramblett	*

Total Offerings = 171
No Critiques = - 8
Courses Critiqued = 163

*Shared responsibility with another person.

For purposes of the analyses of the present study, each of these instructors was assigned a code number (01-22), but not in the order shown on the preceding page.

On the master list of courses and instructors, given on the next page, the course number in each cell is followed by the instructor code number for each quarter of each year included in the present study.

Critiques Per Quarter

From the master data tabulation, the number of student submitting critiques in each of the 28 academic quarters and in each of the seven calendar years was ascertained, and the results are as follows:

Year	Win.	Spr.	Sum.	Fall	Totals
1973	39	62	19	55	175
1974	29	66	21	50	166
1975	75	80	*	87	242
1976	111	97	60	129	397
1977	127	77	52	117	373
1978	151	151	62	132	496
1979	120	158	30	79	397
Totals	652	691	244	649	2236

*Not available.

Analysis of Ratings

The weighted average score (or rating) for each of the 163 course sections was obtained from the master data tabulation, and these ratings were classified in several different ways: by academic quarter, by course number, and by instructor code. In each such classification, "low ratings," "high ratings," and "average ratings" were calculated. The results are shown following the "Master List of Courses and Instructors."

MASTER LIST
COURSES AND INSTRUCTORS

1973

WIN	SPR	SUM	FALL
2011-01	2011-01	2011-05	2011-01
2011-02	2011-02	3011-03	2011-01
	3011-03		3117-06
	3011-01		3211-07
			3351-08
2	4	2	5
			13

1974

WIN	SPR	SUM	FALL
2011-01	2011-01	2011-11	2011-01
3011-09	2011-01	3011-09	2011-01
	3021-09	3117-06	3011-09
	3351-08	3211-07	3116-01
	*4765-10		3211-07
2	5	4	5
			16

1975

WIN	SPR	SUM	FALL
2011-01	2011-01	*2011-09	2011-13
3021-09	2011-12		3011-09
3117-07	3011-09		3116-14
3351-12	3116-01		3211-12
6765-12	3118-09		4351-13
	3211-07		6001-12
	*4765-10		6351-08
5	7	1	7
			20

1976

WIN	SPR	SUM	FALL
2011-13	2011-13	2011-13	2011-13
3021-09	3011-13	3021-13	3011-09
*3115-08	3116-14	3117-14	3116-14
3117-14	*3118-09	6231-12	3211-16
3351-13	3211-12		4021-13
6331-12	6341-09		4765-10
6332-15	6765-10		6001-12
			6351-08
7	7	4	8
			26

1977

WIN	SPR	SUM	FALL
2011-17	2011-17	2011-17	2011-17
3011-09	3021-13	3117-14	3011-09
3021-13	3117-14	3211-12	3116-14
3117-14	3351-13	6231-12	3351-20
3118-09	4765-08	6333-19	4021-13
3351-08	6341-09		4765-10
6331-12	6765-10		6001-12
6332-18			6351-19
6340-13			
9	7	5	8
			29

1978

WIN	SPR	SUM	FALL
2011-17	2011-13	2011-22	2011-17
3021-21	2011-17	3116-14	3011-22
3115-08	3011-22	3117-22	3115-22
3115-22	3021-09	6231-12	3118-14
3116-20	3115-22	6765-08	3351-19
3117-14	3118-14		4021-13
3211-12	3211-12		6001-12
3341-09	3351-20		6351-19
6331-22	4351-19		
6332-13	6333-19		
6340-19	6341-09		
11	11	5	8
			35

1979

WIN	SPR	SUM	FALL
3011-22	2011-13	3116-14	*2011-19
3116-14	3021-13	6231-22	*2011-19
3021-09	3115-22	6765-08	3011-22
3021-12	3117-22		3115-22
3341-09	3118-14		3118-14
4351-19	3118L-20		3332-8&9
6331-22	3211-12		6001-13
6332-13	3351-19		*6351-19
6340-19	4765-14		
	6333-19		
	6341-19		
9	11	3	9
			32

Total Offerings = 171

CoursesCritiqued = 163

*Critique not available.

ANALYSIS OF RATINGS
BY QUARTER

Quarter-Year	Courses Critiqued		Low	High	Averages	
	Quarter	Year			Quarter	Year
Winter 1973	2		3.54	4.00	3.77	
Spring	4		3.14	4.10	3.69	
Summer	2		3.33	4.00	3.67	
Fall	5	13	3.00	4.00	3.40	3.63
Winter 1974	2		4.14	4.50	4.32	
Spring	4		2.00	5.00	3.50	
Summer	4		3.00	5.00	4.00	
Fall	5	15	3.00	5.00	3.50	3.83
Winter 1975	5		3.00	4.50	3.58	
Spring	6		3.00	4.00	3.77	
Summer	0		--	--	--	
Fall	7	18	2.58	4.00	3.44	3.60
Winter 1976	6		2.61	3.85	3.49	
Spring	6		0.63	4.14	3.06	
Summer	4		3.04	4.36	3.78	
Fall	8	24	2.28	4.28	3.45	3.45
Winter 1977	9		2.07	4.40	3.46	
Spring	7		2.78	4.14	3.61	
Summer	5		3.46	4.30	3.85	
Fall	8	29	1.80	4.36	3.65	3.64
Winter 1978	11		2.40	4.66	3.61	
Spring	11		2.90	4.08	3.55	
Summer	5		2.87	3.83	3.24	
Fall	8	35	3.08	4.36	3.79	3.55
Winter 1979	9		2.80	4.63	3.59	
Spring	11		1.66	4.03	3.28	
Summer	3		2.30	4.20	3.37	
Fall	6	29	2.88	4.27	3.54	3.45
Seven Years 1973-1979		163	0.63	5.00		3.59

ANALYSIS OF RATINGS
BY COURSE

Course Number	Courses Critiqued	Low	High	Average
2011	31	2.50	4.36	3.71
3011	16	3.00	4.50	3.67
3021	11	2.61	5.00	3.72
3115	6	2.70	4.00	3.34
3116	10	2.40	4.14	3.43
3117	11	2.87	4.66	3.71
3118	7	1.66	3.60	3.09
3211	11	3.00	5.00	3.80
3332	2	2.88	3.00	2.94
3341	2	3.25	4.00	3.63
3351	10	2.00	4.20	3.12
4021	3	4.07	4.31	4.23
4351	3	3.77	4.63	4.13
4765	4	1.80	3.33	2.38
6001	5	3.20	4.28	3.80
6231	4	2.30	3.92	3.38
6331	4	3.31	3.83	3.64
6332	4	3.38	4.00	3.66
6333	3	2.80	4.08	3.52
6340	3	3.90	4.40	4.16
6341	4	2.18	3.72	3.17
6351	4	2.58	4.38	3.62
6765	5	0.63	4.20	2.82
	163	0.63	5.00	3.51

ANALYSIS OF RATINGS
BY INSTRUCTOR

Instructor Code	Courses Critiqued	Low	High	Average
01	14	2.50	4.14	3.61
02	2	3.54	3.70	3.62
03	2	4.00	4.10	4.05
04	*	*	*	*
05	1	3.33	3.33	3.33
06	2	3.00	3.00	3.00
07	5	4.00	5.00	4.22
08	10	2.00	4.20	2.93
09	22	2.18	5.00	3.46
10	4	0.63	2.78	1.97
11	1	4.00	4.00	4.00
12	19	3.00	4.28	3.54
13	22	3.00	4.28	3.90
14	18	2.10	4.66	3.55
15	1	3.85	3.85	3.85
16	1	3.00	3.00	3.00
17	7	3.47	4.36	3.97
18	1	3.38	3.38	3.38
19	11	2.80	4.63	3.93
20	4	1.66	3.40	2.59
21	1	4.42	4.42	4.42
22	15	2.30	4.00	3.41
	163	0.63	5.00	3.35

*Critiques not available.

Concluding Remarks

Student opinion is important, but it has its limitations and it is merely one measure or indicator of course quality and teaching effectiveness. Students are good judges of what is interesting or entertaining, but they are novices and "unfinished products" of the educational process and, hence, are not expert in what is needed, what is good, or what is effective. They are neither professional educators nor professional practitioners, and they have no basis for judging what is good education or what is appropriate preprofessional training. Unfortunately, some students are unduly influenced by personality confluence, the amount or difficulty of work assigned, and the ease with which they can make a good grade. Nevertheless, it is important to solicit student opinion and to study the results carefully and in concert with other measures and indicators of quality instruction.

The present study includes no final results, definitive conclusions, or attempts to interpret the data presented. This study is more a consolidation and update in a continuing "saga" than it is a basis for drawing firm conclusions. If this study has any recommendations, they would be to continue the pattern of measuring student opinion, improving that measuring process, and acquiring other measures of course and curriculum quality and teaching effectiveness. The H.S. faculty should study this report and make a determination of what comes next.

Appendix 14

1/79

SCHOOL OF HEALTH SYSTEMS

Summary of Results - Non-HS Course Evaluations by Graduate Students

Quarter: Fall Year: 1979

COURSE	INSTRUCTOR	NO. OF STUDENT EVALUATIONS RETURNED	GRADES FOR STUDENTS RESPONDING								NO. OF STUDENTS NOT EVALUATING-				EVALUATION* OF									EVALUATION OF PREREQUISITES: NO. OF STUDENTS CHECKING-			NO. OF STUDENTS COMMENTING#
															COURSE			INSTRUCTOR			COURSE CONTENT/ CATALOG DESCRIPTION AGREEMENT						
			A	B	C	D	F	W	S	U	I	COURSE	INSTRUCTOR	CON./DES. AGR.@	PREREQ'S.	MIN. SCORE	MAX. SCORE	AVG. SCORE	MIN. SCORE	MAX. SCORE	AVG. SCORE	MIN. SCORE	MAX. SCORE	AVG. SCORE	APPRO-PRIATE	UNDER-STATED	OVER-STATED	
ICS 1700		2		1	1											0.0.	2.0	1.00	1.0	2.0	1.50	3.0	4.0	3.50	1	1		
ICS 1700		2														2.0	2.0	2.00	2.0	2.0	2.00	1.0	3.0	2.00	2			1
ICS 4300		1													1	2.0	2.0	2.00	2.0	2.0	2.00	1.0	1.0	1.00				
ISyE 4035		1														4.0	4.0	4.00	4.0	4.0	4.00	4.0	4.0	4.00	1			
ISyE 4103		3	1	1												4.0	4.0	4.00	4.0	4.0	4.00	3.0	5.0	4.00	3			
ISyE 4725		2														3.0	3.0	3.00	2.0	3.0	2.50	3.0	4.0	3.50	2			
ISyE 6301		1														4.0	4.0	4.00	3.0	3.0	3.00	4.0	4.0	4.00	1			
ISyE 6400		4		1											1	3.0	4.0	3.50	1.0	3.0	2.25	3.0	4.0	3.25	3			1
ISyE 6734		3		1												3.0	4.0	3.67	0.0	1.0	0.33	3.0	4.0	3.67	3			1
ISyE 6734		1														2.0	2.0	2.00	0.0	0.0	0.00	3.0	3.0	3.00	1			
ISyE 6739		3		1												1.0	3.0	2.33	1.0	4.0	2.67	0.0	4.0	2.33	2	1		
Math 1711		1		1												4.0	4.0	4.00	3.0	3.0	3.00	3.0	3.0	3.00	1			

*Scale: 0=very bad, 1=poor, 2=fair, 3=good, 4=very good, 5=excellent

#See back of this sheet for comments

@Abbreviation for "Course Content/Catalog Description Agreement"

SCHOOL OF HEALTH SYSTEMS

Summary of Results - Non-HS Course Evaluations by Graduate Students

Quarter: Fall Year: 1979

COURSE	INSTRUCTOR	NO. OF STUDENT EVALUATIONS RETURNED	GRADES FOR STUDENTS RESPONDING									NO. OF STUDENTS NOT EVALUATING-				EVALUATION* OF									EVALUATION OF PREREQUISITES: NO. OF STUDENTS CHECKING-			NO. OF STUDENTS COMMENTING#
																COURSE			INSTRUCTOR			COURSE CONTENT/ CATALOG DESCRIPTION AGREEMENT						
			A	B	C	D	F	W	S	U	I	COURSE	INSTRUCTOR	CON./DES. AGR.@	PREREQ'S.	MIN. SCORE	MAX. SCORE	AVG. SCORE	MIN. SCORE	MAX. SCORE	AVG. SCORE	MIN. SCORE	MAX. SCORE	AVG. SCORE	APPRO-PRIATE	UNDER-STATED	OVER-STATED	
Math 1712		1	1													4.0	4.0	4.00	5.0	5.0	5.00	4.0	4.0	4.00	1			
Mgt. 4290		2													1	3.0	5.0	4.00	3.0	5.0	4.00	4.0	5.0	4.50	1			
Mgt. 6000		1														2.0	2.0	2.00	4.0	4.0	4.00	3.0	3.0	3.00	1			

*Scale: 0=very bad, 1=poor, 2=fair, 3=good, 4=very good, 5=excellent

#See back of this sheet for comments

@Abbreviation for "Course Content/Catalog Description Agreement"

COMMENTS FROM STUDENTS

ICS 1700

"Suggest that this course be provided on P/F basis for HS Grads. Course requires approximately 5 hours of work for each hour of class per week."

ISyE 6400

The instructor was a disappointment; I thought another instructor was scheduled to teach the course. It was videotaped which was excellent. The instructor was obtruse, went very fast (was finished covering the material three weeks early), and was concerned with mathematical theory and gave few real world examples (use the same one over and over at beginning of quarter)."

ISyE 6734

"The instructor was poorly organized and never finished his lectures. This was a good course and the information would be valuable to know. It is too bad I had to get this fellow."

DESCRIPTION OF EXHIBITS

The following supplements were developed in conjunction with the training project but, because of their form, are bound separately as exhibits to this report:

Exhibit #1 — Health Systems Course Documentations, red volume, 172 pp., date March 1, 1980.

Exhibit #2 — 1979-80 General Catalog, Georgia Institute of Technology, a book, 390 pp.

Exhibit #3 — Promotional Material, School of Health Systems, a packet containing:

a. School of Health Systems, a booklet, 11 pp.

b. "Health Systems Questions and Answers," a pamphlet.

c. "Health Systems Research Center," a pamphlet.

d. "Scholarships, Fellowships, and Assistantships at Georgia Tech," a poster.

e. "HS News," a newsletter.

f. MSHS poster.

g. Miscellaneous letters.